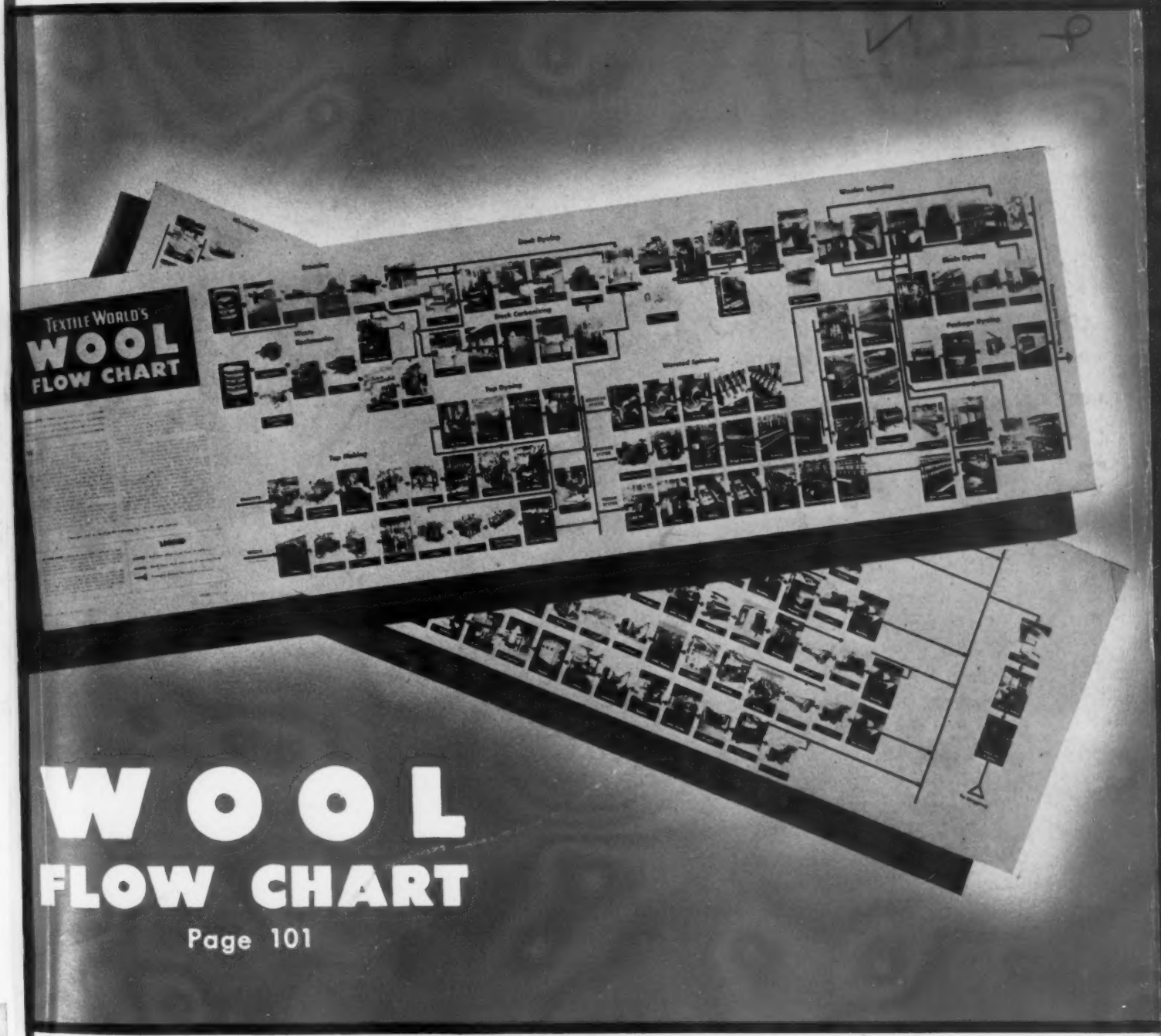
TEXTILE WORLD

A McGraw-Hill Publication ---------- AUGUST • 1947



WOOL FLOW CHART

Page 101

AIR CONDITIONING

In Four Southern Mills

Page 111

STOCK *Automatically Delivered*

With the Proctor overhead conveying and storage system for stock, it is possible to feed stock to card hoppers or storage bins entirely automatically. This system, which may be used in plants producing woolen, worsted, carpet yarn and asbestos, not only assures uniform feeding of the stock you want, when you want it and where you want it—but it does so with an absolute minimum amount of labor. It eliminates all the guesswork and expense involved in manual feeding. Briefly, here is how the system operates: Stock, which has been placed through a preliminary blending operation, is conveyed by an overhead system to a spot above either the card hoppers or storage bins. In the case of the hoppers, the system may be tied in with electrical controls on the feeds in such a way that when all of the hoppers are filled the conveying system ceases to operate and, likewise, automatically shuts off the preliminary equipment to prevent any overrun of material. Just as quickly as any hopper requires more stock, the system automatically begins operation and replaces the supply in the hopper or hoppers where it is needed. If the system is used to feed into storage bins, the electrical controls must be operated manually to govern feeding to the various bins, but otherwise the system is automatic. It may be developed in such a way as to include automatic re-blending-in-process if this is desired and fits into the mill's operation. Since no two plants' requirements are identical, the intelligent way to approach appraisal of such a system in your mill is to discuss your needs in detail with Proctor engineers and have them make recommendations for a system suited to your individual requirements.

PROCTOR & SCHWARTZ, INC.,
PHILADELPHIA 20, PA.

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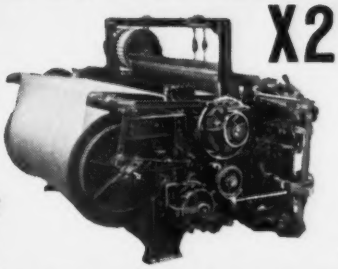
DETROIT

SUPER HIGH SPEED
X2 MODEL
LOOM



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TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

Tune in...TEXACO STAR THEATRE presents the TONY MARTIN SHOW every Sunday night. See newspaper for time and station.

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TEXTILE WORLD

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A McGRAW-HILL PUBLICATION

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THE *Long-Range* VIEW

Printed Poison

Most people have discovered that we are in an age of specialization; comments to this effect are no novelty. The complexity of chemistry and physics, for example, obviously has reached a point where neither of those sciences can be wholly on the tip of the tongue of any one man. Medicine and surgery have gone the way of specialization for perhaps a quarter of a century.

Textile mill men, be they in top management, departmental operation, or laboratory research, must be specialists, whether they so choose or not.

Because men in science and industry are specialists, they trust more than ever before to the written records of other men or of groups or of compilers. Reference works on a desk or in a nearby library are currently indispensable tools in the activity of all of these specialists. Things they do not know must be looked up; and another authority's word will be taken substantially as fact, at least for the time being.

All of this has been said before many times; but there is a point to it all that cannot be made too often. This point concerns the deep and heavy responsibility which lies upon authors and publishers to make certain to the limit of human ability that what they put down in black and white is as nearly accurate as it can be made. Once made, an error becomes truth to many who have no better authority. We are not including here books on philosophical, religious, governmental, or economic subjects in which the author's opinion is the important thing. In industrial reference works, few would be interested in the author's opinion as to what constitutes, let us say, S and Z twist; but many might like to know the facts about it.

Textile reference works have quite properly been growing lately in number and in scope. There are recent examples, however, in which the content has been deficient as to accuracy, intelligence, and even common sense. The editors of TEXTILE WORLD have received some books which do not give to the seeker after textile information a wholly correct picture. The books referred to came from publishers of good repute. In instances, these books were completely misinforming; as an example, one defined "cellulose based yarns" as "twisted paper, resin treated; woven into rugs for backing." If the best of publishers accept erroneous material, we scarcely dare to open the covers of books from other sources. We are constantly alert to the possibility of error in matters of our own publication; we are fortunate to have a staff of expert technicians to edit the material which appears in TEXTILE WORLD. Although far from claiming perfection, we feel that we have at least taken conscientious steps to keep errors to a minimum.

The textile specialist is not too likely to be misled by obvious errors in works on his particular field, but he probably depends on the printed word for his information on other divisions of the industry. The student or investigator on the fringe of the industry, the teacher, the retail salesperson, the home-economics instructor, or any like person who uses one of these misleading books, and has no other critical standard drinks mental poison for himself and spreads confusion and misunderstanding among others.

Our industry is spending millions through various channels to improve public relations and to effect a clearer understanding of textiles and the industry behind them by the public at large. Here is a point of contact for small but fruitful work. If the army of informed textile men were articulate every time they saw or heard about a factual error on the printed page, our libraries would contain better books, and human effort could be diverted to other more positive uses than correcting misconceptions that never should have existed in the first place.

An association, foundation, or institute might perform a public service by offering in effect a seal-of-approval to textile books which pass a board of experts.

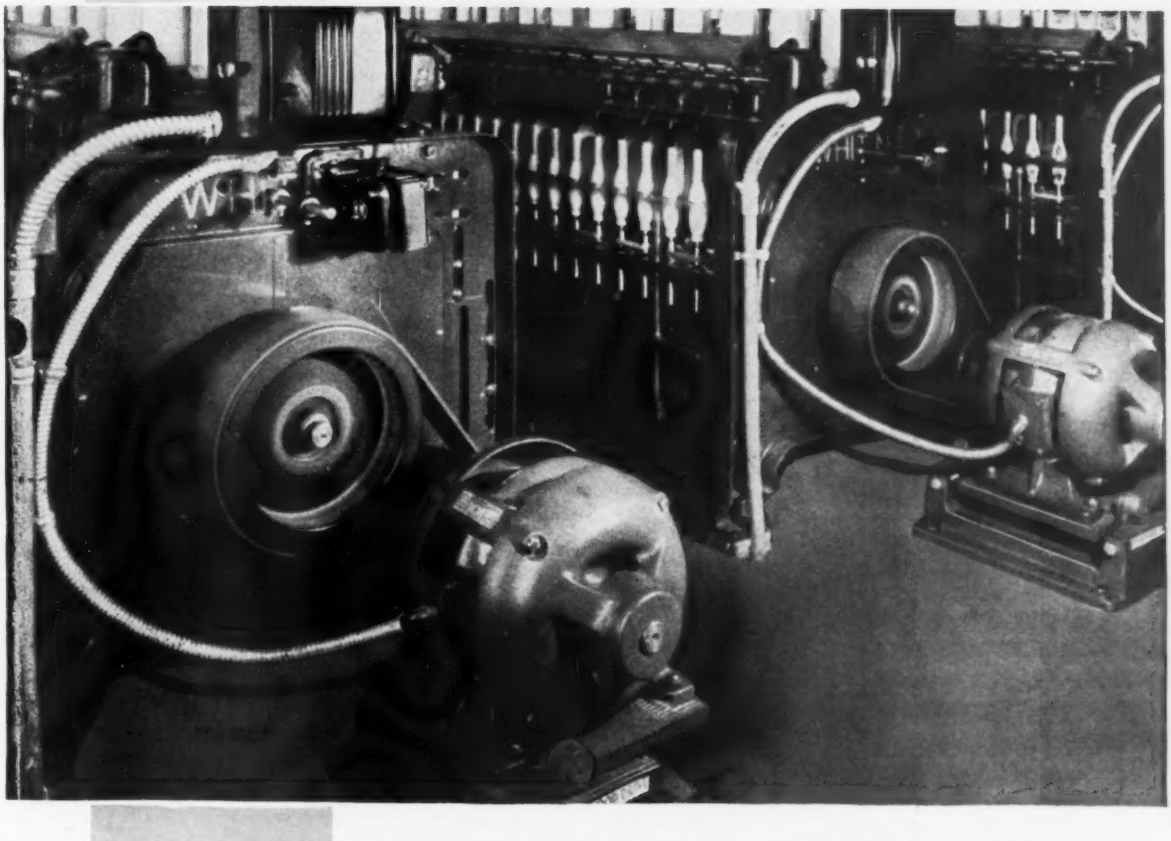
William B Dall

RHOADS

Tannate

LEATHER BELTS

ASSURE GREATER, UNIFORM YARDAGE— LESS SPOILAGE . . .



TANNATE-ROCKWOOD DRIVES ON SPINNING FRAMES

in carding room, spinning room or on your looms.

Rhoads TANNATE Leather Belts withstand high temperatures, humidity, machine oils and many chemicals; carry full load when damp; require fewer take-ups and less maintenance; have a high power transmitting capacity; are 1/3 to 1/2 stronger than most oak belts; are extremely flexible.

Follow the lead of many other Textile Mills . . . equip your machines with Rhoads TANNATE Leather Belts and get peak production with lower costs.

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The production of ethyleneamines has been increased from drum to tank car quantities in a large new plant unit at Texas City, Texas.

The ethyleneamines are important as organic alkalies and as intermediates for many industrial compounds. With these materials, the way has been opened to product improvement and lower cost processes, in the fields of textile, pharmaceutical, resin, and petroleum chemicals.

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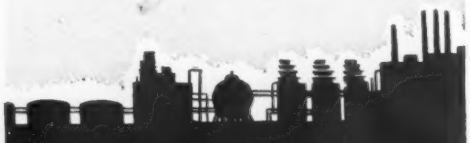

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Ethylenediamine . . . solvent for sulphur colors for dyeing cotton cloth.

Diethylenetriamine . . . for fatty acid derivatives added to rayon spinning baths.

Triethylenetetramine . . . for ion-exchange resins in water purification.

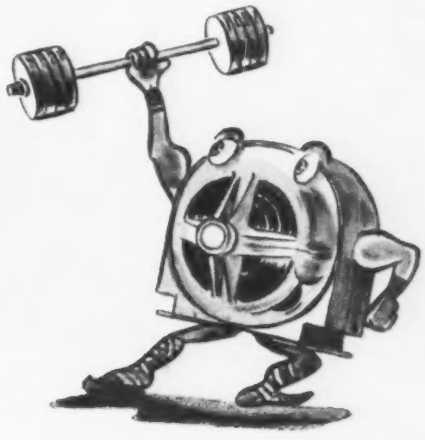
Tetraethylenepentamine . . . as a rosin soap stabilizer.

Additional information to determine which of the ethyleneamines can best serve your needs is contained in our "Nitrogen Compounds" booklet (F-4770). In writing for your copy, please address Department C-3.

"Puzzled over which type of motor to buy?"

In 80% of the Cases, open squirrel-cage induction motors meet the need. They fit most drives, and can be obtained in numerous standard and special designs to meet varying conditions of starting torque, slip, etc. They are also the most economical type to buy and to maintain. Allis-Chalmers builds induction motors in sizes from ½ to 10,000 hp — or higher, if needed.

For Tough Starting Conditions, wound-rotor induction motors are recommended. Their high starting torque, at comparatively low starting current, and their controllable speed characteristics are desirable in drives for conveyors, grinding mills and other tough starting assignments. Compact, accessible Allis-Chalmers wound rotor induction motors range in size from 5 to 10,000 hp.



For Slow Speed, direct-connected drives as low as 75 rpm, or other constant speed applications at higher rpm, synchronous motors are a good solution. They are of particular benefit when a system's power factor is low, since they can be furnished for operation at either unity or leading power factor. From 40 hp to 50,000 hp and higher — in bracket bearing, pedestal bearing, or engine types.

Is d-c Available? Then adjustable speed operation is easily obtainable. Allis-Chalmers builds d-c motors from ½ to 10,000 hp and higher — for constant or adjustable speed duty in ranges of 6:1 and lower. By means of a source of d-c voltage, adjustable speed motors may also be designed to operate over a speed range as high as 30:1. Suitable for fans, elevators, etc.

Select from the Complete Allis-Chalmers Line!

NOT JUST FOLLOWING popular choice and using a standard squirrel cage induction motor. But the *right* motor for economy and efficiency.

That means an overall knowledge of *all* types of motors . . . their operation . . . limitations . . . maintenance. And there's where your A-C representative can be a big help. His recommendations are backed by experience . . . and the Allis-Chalmers motor he selects is *itself* backed by 50 years of experience in motor design and building. ALLIS-CHALMERS, MILWAUKEE 1, WIS. A 2304

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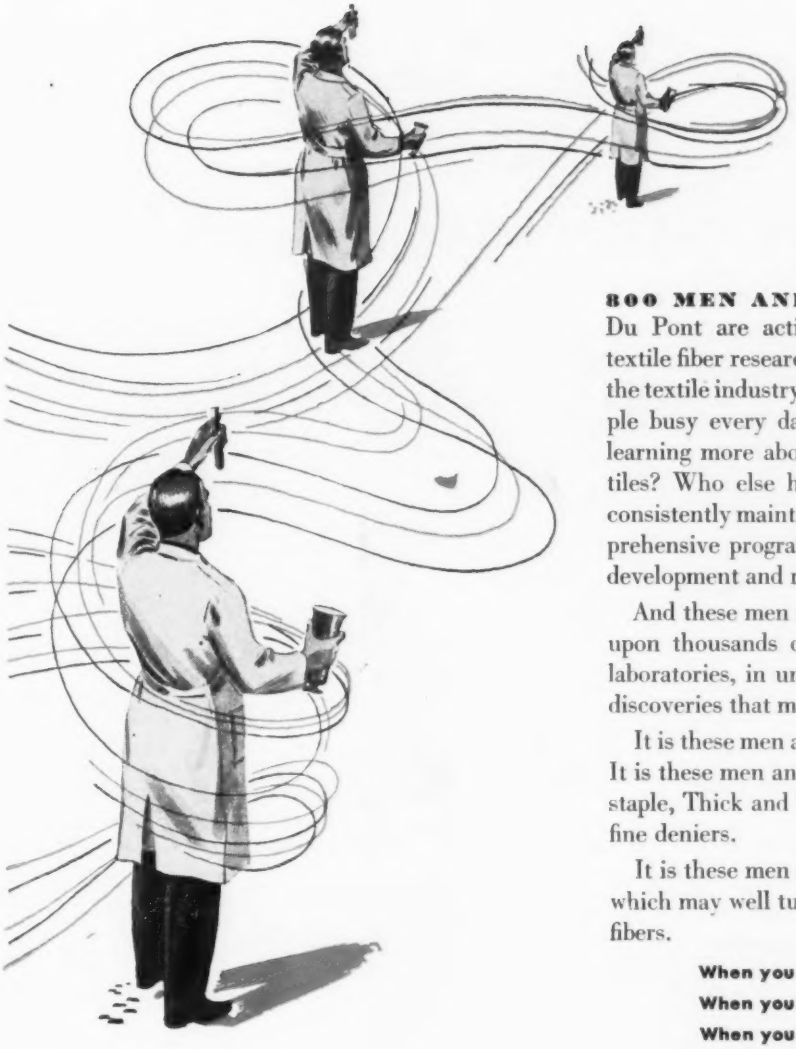


800 MEN AND WOMEN of Du Pont are actively engaged in textile fiber research. Where else in the textile industry are so many people busy every day every week in learning more about fibers for textiles? Who else has launched and consistently maintained such a comprehensive program of textile fiber development and research?

And these men are not alone. Back of them are the thousands upon thousands of Du Pont scientists at work every day—in laboratories, in universities, in factories—who are making basic discoveries that may influence tomorrow's textiles.

It is these men and women who developed and perfected nylon. It is these men and women who have been responsible for rayon staple, Thick and Thin Rayon, high tenacity yarns, and the first fine deniers.

It is these men and women who are working today on projects which may well turn out to be tomorrow's biggest news in textile fibers.

When you need acetate rayon . . .
When you need viscose rayon . . .
When you need nylon . . .
When you need help in where and how to use any of these man-made fibers . . .

} take it up with Du Pont

IT'S A NAME TO DEPEND ON . . . DU PONT!

ACETATE DIVISION • NYLON DIVISION • RAYON DIVISION

Rayon Department, E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Del.

For NYLON
For RAYON
For FIBERS to come...look to Du Pont

BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

DU PONT

REG. U.S. PAT. OFF.

More synthetic filament yarn than on all

Atwood Utility Up-Twister Single-end twisting at maximum speed. Unitwist Belt — lapless, endless — maintains uniform spindle speed without vibration.

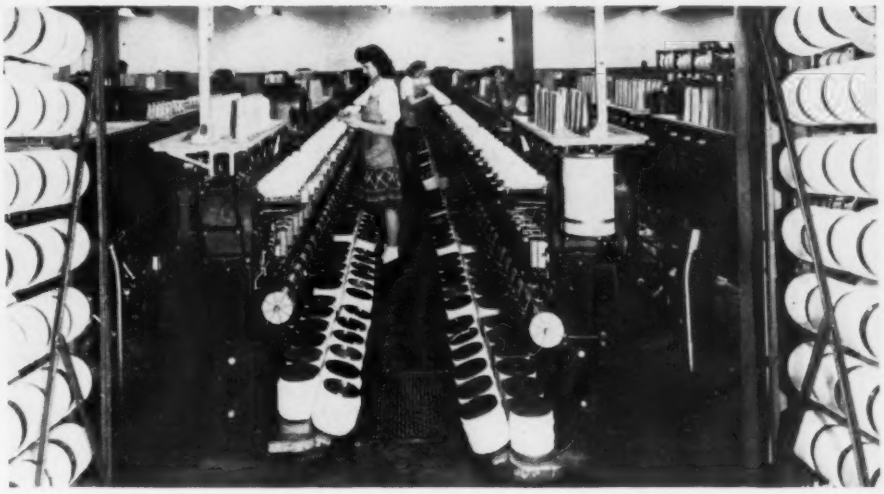
Universal Nylon Sizing Machine Sizes and winds under light and uniform tension; special package build permits faster conditioning — eliminates redraw between the sizing and coning operations.

UNIVERSAL WINDING

INCLUDING *Atwood*

Providence • Boston • Philadelphia • Utica • Charlotte • Atlanta • Chicago

is handled on these machines
others combined



Universal Pineapple Coning Machine Straight line emulsion; uniform oil pick-up; slow spindle start; exclusive roller bail.

In many a throwing mill, Atwood twisters and Universal winding machines have worked side by side for generations. Hess, Goldsmith & Co., the company in whose mill these photographs were taken, has used Universal machines for 38 years and Atwood machines for 59 years... Now that Atwood Machine Co. has become the Atwood Division of Universal Winding Company, this one company is responsible for more throwing machinery (twisting, sizing, winding) than all other manufacturers combined.

23.7.28

ATWOOD

COMPANY

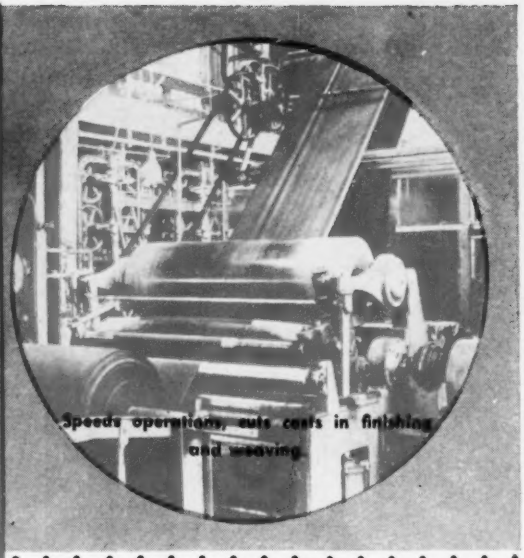
Division **STONINGTON, CONN.**

Los Angeles • Montreal • Hamilton

Reg. U. S. Pat. Off.

STYMER

a totally new sizing and finishing agent for rayons, cottons and worsteds



In actual mill practice, Stymer—a new Monsanto development for the textile industry—has already proved itself *two to three times more effective* than former sizing agents on acetate rayon, viscose rayon, cotton and worsteds. Its application requires no special equipment. It has many new, practical working advantages over former sizing agents. It competes on a cost basis.

MANY ADDITIONAL USES

In addition, Stymer possesses nearly a score more useful qualities, that make its announcement welcome news in textile mills. Chief among them are these four: (1) Stymer has excellent filament and fiber bonding qualities, (2) it reduces or eliminates static in weaving, (3) its weaving properties are practically independent of humidity or temperature changes, (4) as a finishing agent for cottons and rayons, Stymer assures unique, bright crisp fabric.

TIMELY DEVELOPMENT

The introduction of Stymer is of special interest at this time, when competition is becoming increasingly tough from the standpoint of both price and quality. It gives far-seeing textile firms an opportunity to improve their products and to cut manufacturing costs in order to compete successfully under today's difficult market conditions.

QUICK FACTS ABOUT STYMER FOR SIZING

1. Excellent filament and fiber-binding qualities.
2. Not affected by temperature changes—may be applied from a size bath or temperatures of 140° F to 212° F with equal ease.
3. Stymer sizing films maintain their toughness at high humidity and flexibility at low humidity.
4. Eliminates or minimizes static in slashing and weaving.
5. Does not shed on acetate and filament yarns.
6. Produces softer, well-sized yarn.
7. Broken filaments in warp are picked up.
8. Does not stick to dry cans under proper application.
9. Produces more uniform fabrics.
10. Size is easily removed with plain water.
11. Will not "set" in mill pipes, does not gel when cold.
12. Economical to use.

MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY...WHICH SERVES MANKIND

FREE BOOKLET available to your technical staff . . . or Monsanto will be pleased to make a demonstration in your plant. Write: MONSANTO CHEMICAL COMPANY, Textile Chemicals Department, 140 Federal Street, Boston 10, Mass. Stymer: Reg. U. S. Pat. Off.

The Name Tells the Story!

The name on these bearings—NEW DEPARTURE—aptly describes the originality, ingenuity and resourcefulness which have made this company the world's largest ball bearing maker.

Because *Nothing Rolls Like A Ball,* Industry selects *ball* bearings for countless applications. They are uniquely suited for today's higher speeds, heavier loads and greater precision requirements.

New Departure — combining tremendous practical experience with an earnest desire to serve—is the logical choice for Today AND Tomorrow!

Nothing Rolls Like a Ball

NEW DEPARTURE

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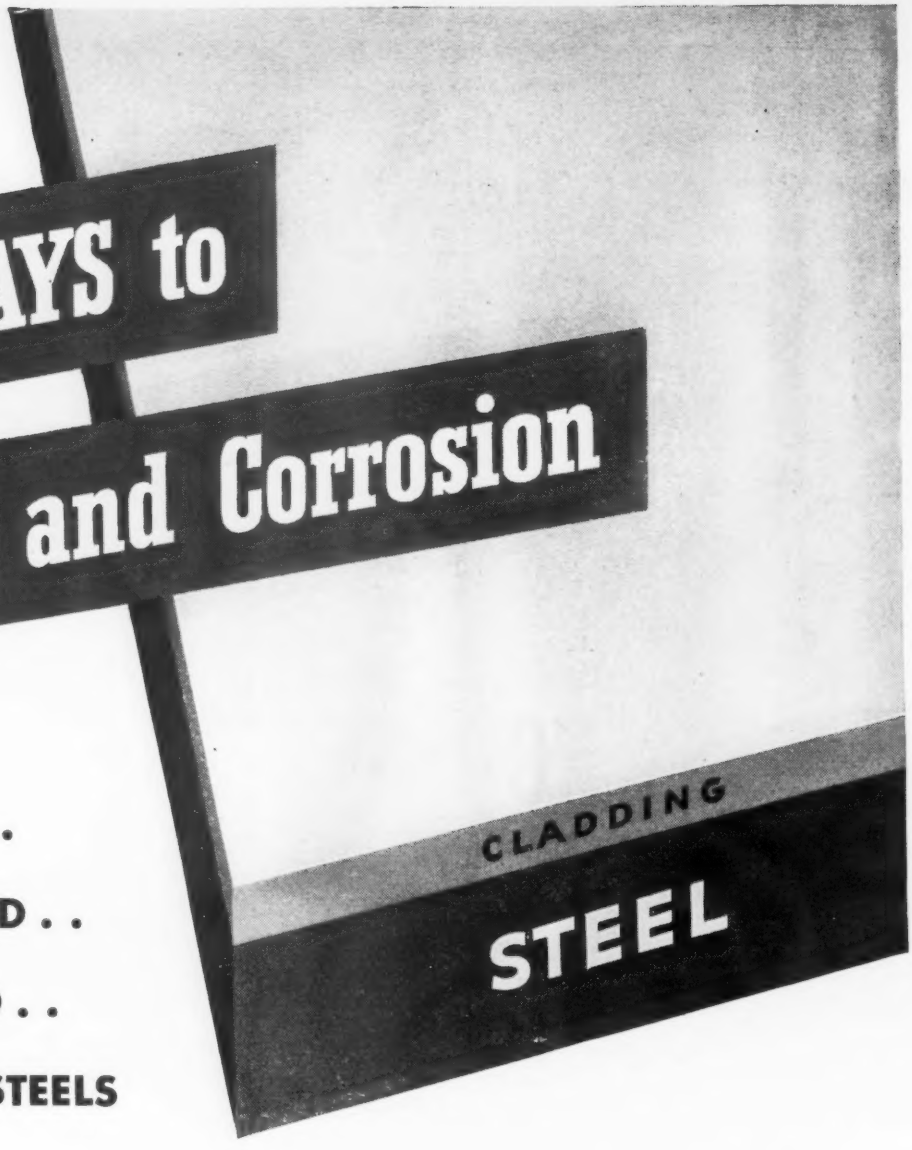
NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONN. • Branches in DETROIT • CHICAGO • LOS ANGELES and other cities

FOUR WAYS to Cut Cost and Corrosion



★ **NICKEL-CLAD . .**

★ **STAINLESS-CLAD . .**

★ **INCONEL-CLAD . .**

★ **MONEL-CLAD STEELS**

There's a whole family of Lukens Clad Steels—the widest variety of claddings available—enabling you to choose the *best* metal to protect your equipment against corrosion and your products from contamination. Nickel, Inconel, Monel or any of the standard types of stainless . . . there is a Lukens Clad Steel for your particular service. Plate sizes range *up to 178" wide*, or from $\frac{3}{16}$" to over 3" thick. You can get heads in all styles and sizes to over 18' in diameter.

Protection with economy. The cladding need be only as thick as your service requires, from 5 to 50 per cent of plate thickness. Savings in material costs, compared with solid plate of the cladding material, may be as much as 50 per cent.

Uniform cladding . . . permanently bonded . . . Lukens precision methods predetermine and maintain *uniform thickness* of the cladding across the entire plate. Bond between cladding metal and steel backing is permanent—you use ordinary commercial methods for bending, shearing, pressing and welding. Numerous tests show the bond strength to exceed that of the steel itself.

Moneysaving information on Lukens Stainless-Clad Steels is contained in Bulletin 338; on Nickel-Clad, Inconel-Clad and Monel-Clad Steels, in Bulletin 255. Please write for copies. Lukens Steel Co., 406 Lukens Bldg., Coatesville, Pa.

LUKENS

Nickel-Clad Stainless-Clad
Inconel-Clad Monel-Clad
STEELS

★

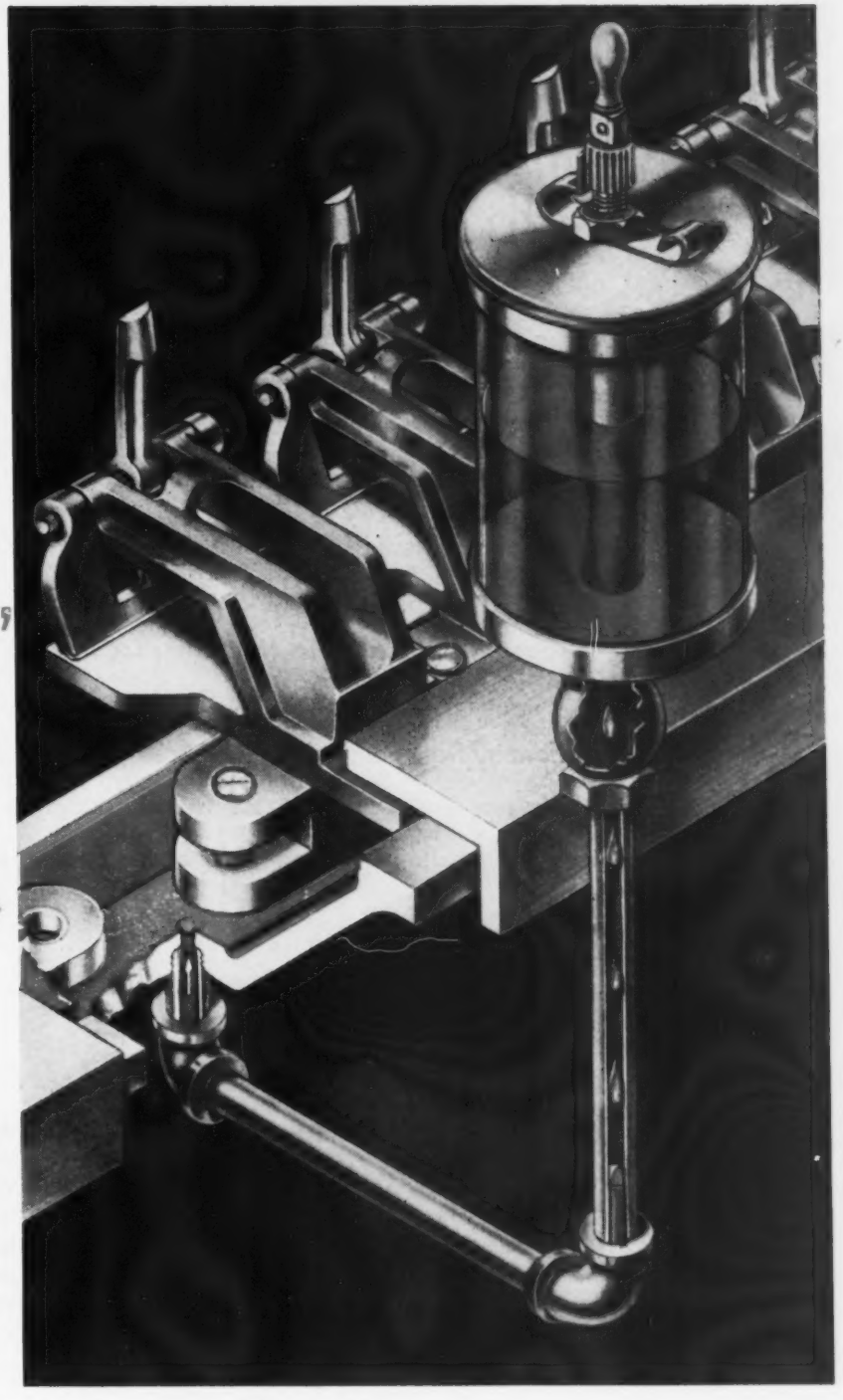
SOLID METAL ADVANTAGES WITH CLAD STEEL ECONOMY

Inside Knowledge on Lubrication Problems

—HEAT—

This is One of a Series of Messages on Common Problems in Your Mills

Oil is "Under Fire" Here →



YOUR tentering frame puts oil to a severe test in two different ways.

First, it subjects the oil to several hundred degrees of heat in the pre-shrinking ovens. Second, it gives the oil, applied drop by drop, a shearing slide down the entire length of the frame. Oil must stand up under this heat and shearing action. If it fails, friction and wear result.

Gargoyle Vacuoline Oil AA combines both the high chemical stability and the extra lubricity necessary for this tentering frame job. It resists oxidation under the high temperatures, and it forms strong films between the track and clamps. It stands up throughout the long slide. Wear and maintenance costs are reduced to a minimum.

Get this proved high-quality lubricant on your tentering frame now for maximum resistance to heat, maximum protection against wear.

SOCONY-VACUUM OIL CO., INC.
and Affiliates: Magnolia Petroleum Company
General Petroleum Corporation

SOCONY-VACUUM

GARGOYLE Lubricants

Socony-Vacuum Correct Lubrication

FOR EVERY MACHINE . . . EVERY OPERATING CONDITION

Uniformity of staple length increases manufacturing efficiency and economy with Lanese*

Mills using Celanese* synthetic staple fiber—sold under the trademark Lanese—can depend upon uniformity of product. For Lanese is scientifically controlled from the production of the cellulose acetate by chemical processes to the cutting of the specified lengths. Uniformity from bale to bale is assured——as a result there is appreciably less waste with Lanese. Uniform quality of staple contributes to uniform quality of yarn—and of the final fabric.

POINTERS TO LANESE

Lanese adds important sales points when used in combination with viscose process rayon, cotton or wool.

Where the proportion of Lanese is dominant, fabrics gain in pleasing hand, richness of color, better draping qualities.

Lanese adds greater dimensional stability . . . makes possible greater versatility of weaves.

The exceptionally stable price of Lanese avoids need for hedging.

Celanese* Lanese*

SYNTHETIC STAPLE FIBER

*Reg. U.S. Pat. Off.

CELANESE CORPORATION OF AMERICA, 180 MADISON AVE., NEW YORK 16, N. Y.

Branch Offices: PHILADELPHIA 7, 12 South 12th Street • CHARLOTTE 2, 1106 Liberty Life Building • BOSTON 10, 140 Federal Street

SANDOZ PRESENTS *the color achievement of the month*

Beach Blue

BY HAFNER

A blue that will laugh at the sun and the sea and will be as fresh at the season's end as it is today . . . is what Hafner Associates requires for the fabrics it supplies for this Bestlyne swim suit.

Atlantic Dye Works, handling Lastex dyeing for Hafner, includes Sandoz among its suppliers because it can depend upon Sandoz colors for seaside service. Among the acetate colors which are used for bathing suit purposes are Artisil Direct Blue BSQ, Artisil Direct Violet 2RP, Artisil Direct Violet BP, Artisil Direct Yellow RN, Artisil Direct Orange 2R and Artisil Direct Red 3BP.

For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you have been seeing in these Sandoz advertisements.

Sandoz application laboratories are located in Philadelphia, Charlotte, Los Angeles, Boston, New York, Toronto, where stocks in wide range are carried.

Other branches are in Providence, Chicago and Paterson.

SANDOZ CHEMICAL WORKS, INC.
61 VAN DAM STREET
NEW YORK 13, N. Y.

SAND *thinks ahead with textiles*

S
SANDOZ

KNITTERS WHO DO THEIR OWN SPINNING

Wind on Roto-Coners...*

Knit from Roto-Cones

Among the cotton spinning mills which are replacing their old winding equipment with Roto-Coners* (and they are in the majority these days) are many which are knitters, too.

These mills appreciate the double advantage of Roto-Coner* winding machines — high production and low operating cost in the winding room . . . quality work at the knitting machines.

The exclusive Rotary Traverse permits higher winding speeds (without the necessity of changing speed when changing yarn counts). And there are no cams or other fast-wearing parts.

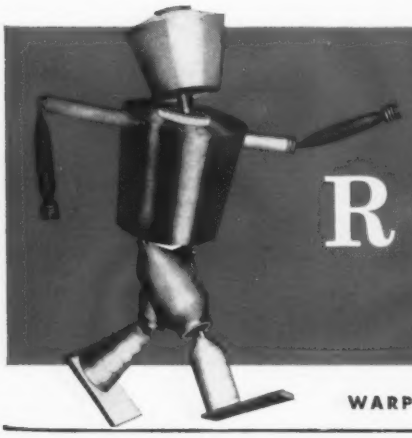
The same Rotary Traverse is responsible for the steep-angled lay of yarn which produces easy delivery at all diameters, the elimination of stitches and freedom from roll cuts.

Read Bulletin 144 for more facts about America's fastest-selling winding machine.

UNIVERSAL WINDING COMPANY

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles, Montreal, Hamilton

23.7 10

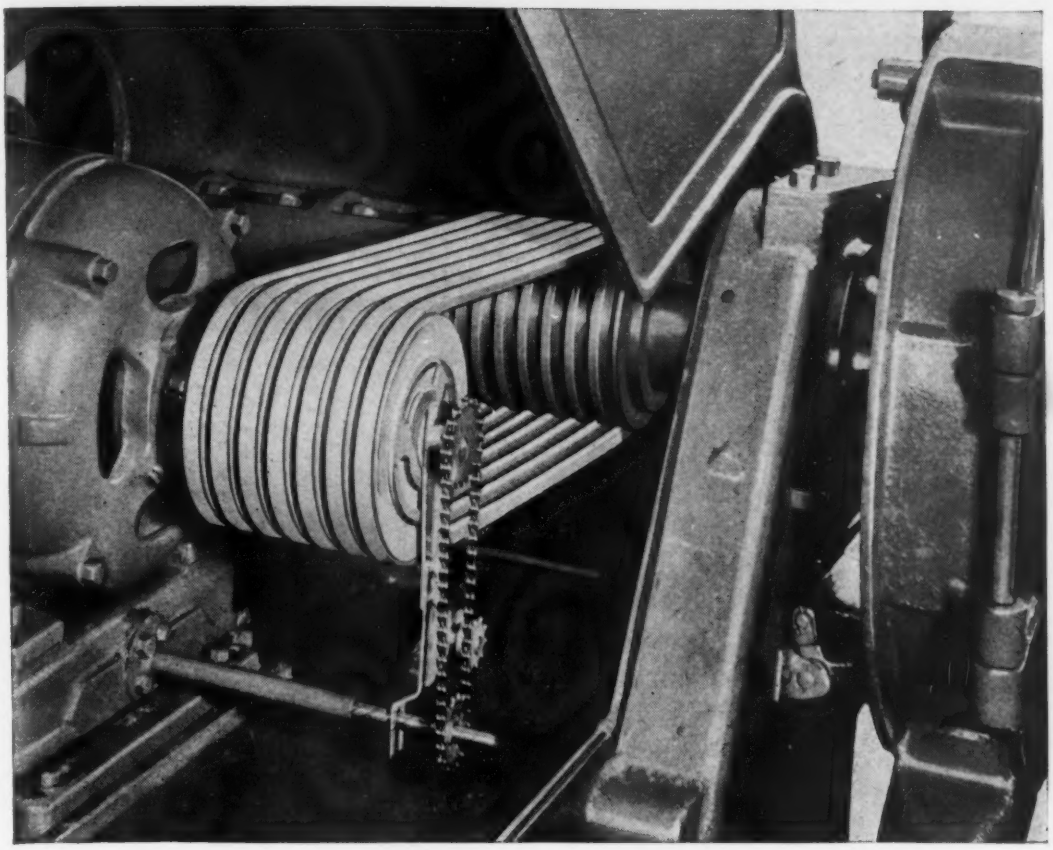


LEESONA
REG. U.S. PAT. OFF.

ROTO-CONER*

Open-Wind Cones for Knitting

WARPING CONES — DYEING PACKAGES — PARALLEL TUBES FOR TWISTING



Texrope *VARIABLE* Speed Drive ...the practical way to get *Accurate Speed Control*

- To regulate a machine tool to suit variations in job, material, or individual workman
- To control the volume of air from heating and ventilating fans
- To vary the speed of a pump, spinning frame, conveyor, rock crusher or grinding wheel
- *Wherever* the ability to change operating speeds at will can add to efficiency, output or economy —

Install Texrope Variable Speed Drives!

These flexible drives use economical constant speed motors. They provide infinite speed variations within their ranges — quickly, easily, accurately.

Vari-Pitch sheaves using A, B, C, D or E belts are available for stationary or motion control, with range up to 25% per sheave; *Vari-Pitch* sheaves using Q or R wide belts allow variations up to 100%; *Vari-Pitch* speed changers permit ranges up to 375%. There are types and sizes to suit all needs, from fractional to 300 hp!

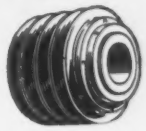
Texrope offers the *most complete* line of variable speed drives made ... engineered and built by Allis-Chalmers, originator of the multiple V-belt drive. See Sweet's Catalog, or call your nearby A-C office or dealer for Bulletin 20B6051G. ALLIS-CHALMERS, MILWAUKEE 1, WIS.

A 2200

TEXROPE ..Greatest Name in V-Belt Drives

"Super 7" V-BELTS
Five Types — Sizes to suit every power transmission job.

Texsteel, Texdrive, "Magic-Grip"
— sheaves in a full range of sizes, grooves.



"Vari-Pitch" SHEAVES
Exact variations in speed, stationery or motion control.

SPEED CHANGERS
Speed variations up to 375% at the turn of a crank.

ENGINEERING
Finest V-Belt engineering talent in the world—at your call.

TEXROPE "Super 7" V-Belts result from the cooperative research of two great companies — Allis-Chalmers and B. F. Goodrich. They are sold only by A-C.

ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

1847 1947 A CENTURY OF SERVICE to Industry THAT MADE America Great

Now . . . a new polyvinyl material

GEON Paste Resin

NO HOT MILL MIXING NECESSARY; NO VOLATILES REQUIRED FOR MOST APPLICATIONS; NO PRESSURE NEEDED FOR MOLDING; CAN BE CAST OR DIPPED; NO SHRINKAGE OR INTERNAL STRAINS IN FINISHED PRODUCTS

GEON paste resin is a new raw material that closely approaches the ultimate in simplicity of compounding and fabrication.

Easy to Compound

Simply stir the resin, plasticizer, and pigments. After eliminating any trapped air the mixture is ready for fabrication into finished products. No solvents or other volatiles—no hot mill mixing (when used in making thin films or coatings it may be desirable to pulverize the resin).

Easy to Apply

Compounded GEON paste polymer is especially suitable for low pressure molding. Or it may be cast as sheet or film, or as coatings for fabrics, fibres, and papers. In other applications, a simple dipping process may be used. In all cases, the application of heat fuses the paste into a homogeneous vinyl plastic.

Many Outstanding Properties

Products made from or with GEON paste resin may have all the desirable properties of products made from GEON by other methods; resistance to oils, chemicals, abrasion, heat, cold, flexing, sunlight, aging, water, flame, and most other normally destructive factors. Products made from GEON paste resin may be brilliantly or delicately colored.

Write for Information

We will be glad to work with you on special problems or applications. Limited quantities of GEON paste resin are available for experimental purposes. For more information please write Department M-4, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. In Canada: Kitchener, Ontario.

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

GEON polyvinyl materials • HYCAR American rubber • KRISTON thermosetting resins • GOOD-RITE chemicals

Model K Comber installation at Bates Mfg. Co., Lewiston, Me.

Rugged Dependability

. . . from shift to shift!

AROUND-THE-CLOCK PERFORMANCE BY WHITIN COMBERS

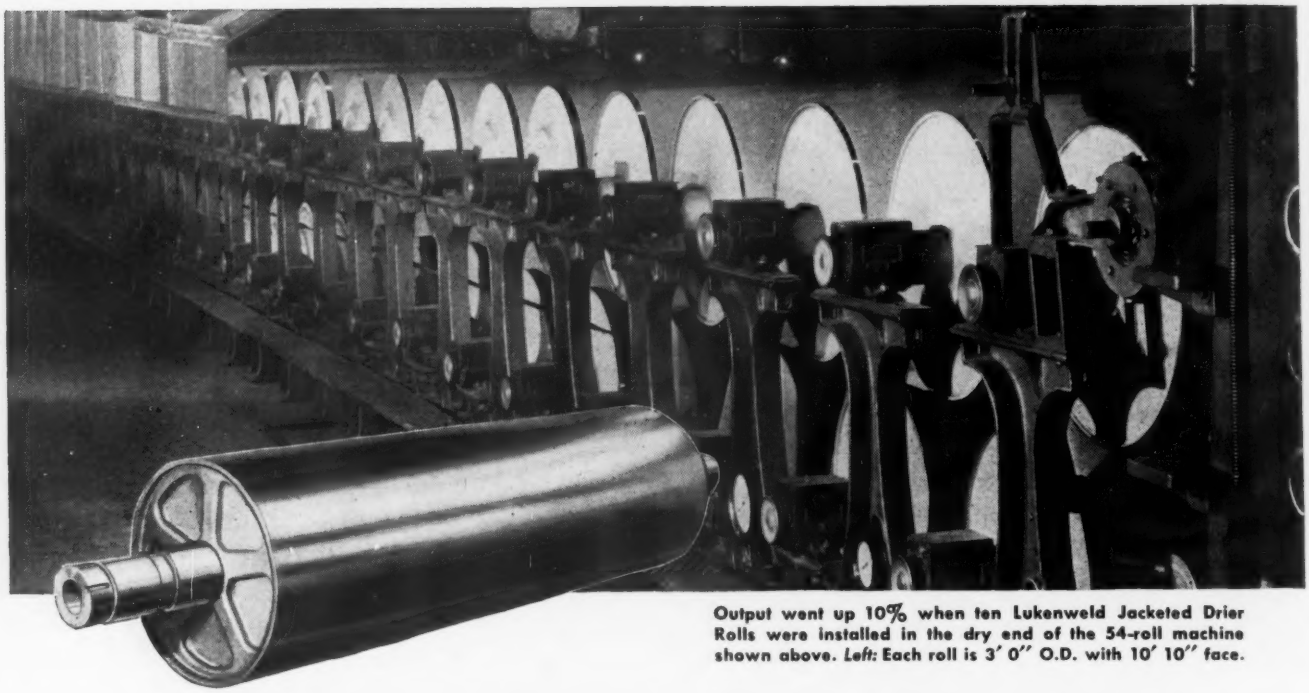
CONTROLLED high quality through every manufacturing operation is largely responsible for the enviable reputation enjoyed by the Bates Mfg. Company. Famous for their quality bedspreads, their combed percale sheets are a worthy addition to the widely known Bates Line. To maintain top quality and achieve high production on these fine sheets, Bates has installed a battery of ten Whitin Model "K" combers. Operating over a period of months on a brutal day and night around-the-clock schedule, these machines have been delivering combed sliver which meets the rigid standards required for this quality product.

Based upon their performance under exacting mill conditions you too may install these rugged Whitin Combers with full confidence. The Model "K" Comber will stand up and produce combed sliver of highest quality at an excellent production rate.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

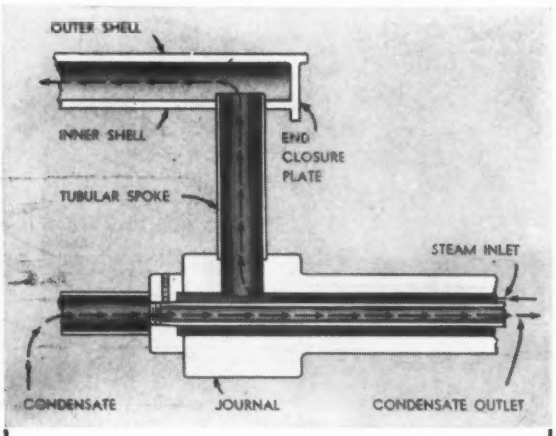
CHARLOTTE, N. C. • ATLANTA, GA.



Output went up 10% when ten Lukenweld Jacketed Drier Rolls were installed in the dry end of the 54-roll machine shown above. *Left:* Each roll is 3' 0" O.D. with 10' 10" face.

DRYING EFFICIENCY UP 50%
with Lukenweld Jacketed Drier Rolls

(PATENTS APPLIED FOR)



Section of a typical Lukenweld Jacketed Drier Roll, showing how steam is circulated against the roll face. Working surface may be carbon or low-alloy steel, solid stainless, Monel or other nonferrous metals or clad steels.

You can get increased production from your present equipment by installing Lukenweld *Jacketed* Drier Rolls. Here is a case in point:

The last 10 of 54 cast rolls in a large machine were replaced with Lukenweld Jacketed Drier Rolls. Steam pressure was increased from 50 to 140 psi. Drying efficiency of these 10 rolls went up 50 per cent. Machine output was increased 10 per cent!

Another test was made without increasing steam pressure. Residual moisture in the felt was reduced 28 per cent by the Lukenweld Jacketed Drier Rolls. Production was increased approximately 5 per cent.

Lukenweld welded steel design helps you get faster, more efficient drying in two ways. You can use higher steam pressures safely—up to 350 psi., or more. And, the double-shell steel plate construction gives greatly improved heat transfer properties. Numerous installations show drying rate stepped up 15 to 18 per cent *with no increase in steam pressure.*

The complete story about Lukenweld Jacketed Drier Rolls is worth money to you. Write for Bulletin 358. Lukenweld, Inc., Division of Lukens Steel Company, 406 Lukens Building, Coatesville, Pa

Sizes from 2 feet to 18 feet O. D. and over

LUKENS
LUKENWELD DIVISION

LUKENWELD, Inc.

DRIER ROLLS AND DRYING MACHINERY

so easy to weave...

so easy to sell...

Firestone *Velon**

With Firestone *Velon* you eliminate soiling hazards, end losses due to dirt, soot and dust in shipment, in storage, in process. This new yarn will not stain – wipes spic-and-span clean, good as new, in a jiffy with a damp cloth. Finished fabric is always clean and fresh.

Velon is as easy to weave as conventional yarns, which means smooth production. No special equipment or skill is required to make the wonderful fabrics that defy dirt, staining, shrinkage, fading, wear and age – and which sell so easily. Write Firestone, Akron, for free full-color booklet on *Velon*, and for technical assistance.

*Velon**

LISTEN TO THE VOICE OF FIRESTONE MONDAY EVENINGS OVER NBC

BEST TODAY · STILL BETTER TOMORROW

THE FIBRE OF TOMORROW ON THE LOOMS OF TODAY

*TRADE MARK

In the modern textile laboratory chemists are called upon continually to effect improvements in the processing as well as in the appearance, durability, and performance of yarns and fabrics.

New solutions to these problems are possible with cationic emulsions and dispersions prepared with the Armeens and Armacs—Armour's high molecular weight aliphatic amines and amine acetates.

Such cationic emulsions or dispersions are substantive to cellulose and the oil phase can be exhausted on to the fabric. The soluble amine salts such as the acetates and the hydrochlorides are effective penetrants and can be fixed or insolubilized in the fiber by double decomposition with the proper salt.

The pH of these emulsions is slightly on the acid side. Calcium, magnesium, aluminum and other metallic ions have little effect upon their stability. Compatibility is determined by the type of anion.

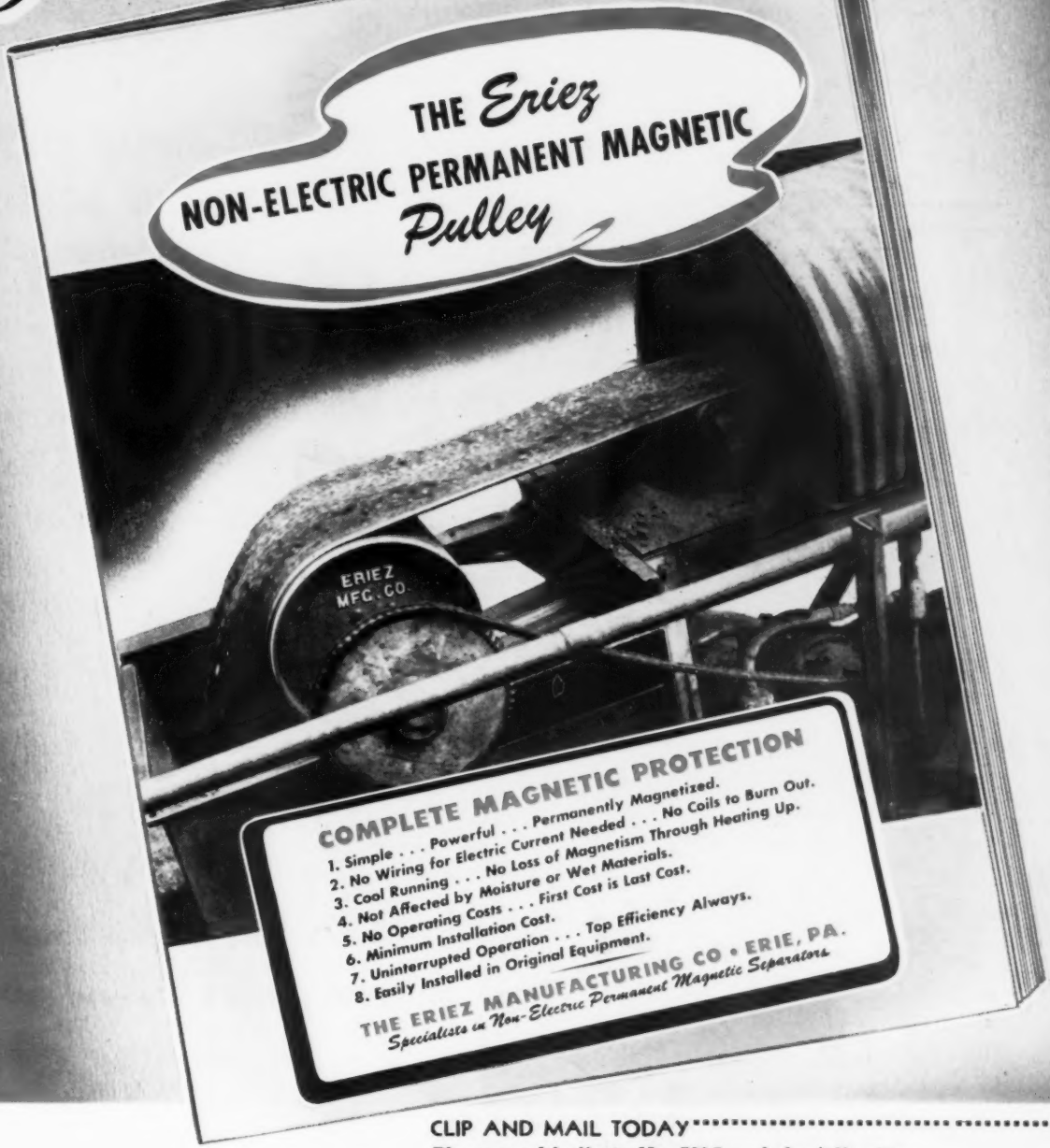
Write today for our new booklets, "The Armeens and Armacs as Cationic Emulsifiers" and "The Armeen Salts—Penetrants or Repellents."

ARMOUR *Chemical* **DIVISION**

ARMOUR AND COMPANY • 1355 WEST 31ST STREET • CHICAGO 9, ILLINOIS

It's New!

THE Eriez NON-ELECTRIC PERMANENT MAGNETIC Pulley



COMPLETE MAGNETIC PROTECTION

1. Simple . . . Powerful . . . Permanently Magnetized.
2. No Wiring for Electric Current Needed . . . No Coils to Burn Out.
3. Cool Running . . . No Loss of Magnetism Through Heating Up.
4. Not Affected by Moisture or Wet Materials.
5. No Operating Costs . . . First Cost is Last Cost.
6. Minimum Installation Cost.
7. Uninterrupted Operation . . . Top Efficiency Always.
8. Easily Installed in Original Equipment.

THE ERIEZ MANUFACTURING CO • ERIE, PA.
Specialists in Non-Electric Permanent Magnetic Separators

Interested in Automatic Tramp Iron Removal From Your Textile Fibers?

Write For This New Bulletin.

CLIP AND MAIL TODAY

Please send bulletin No. 501A and the following: TW-8

Data on Eriez Magnets for:

☐ Wool ☐ Cotton ☐ Worsted ☐ Other processing lines

Eriez data on: ☐ Gravity Conveyor ☐ Mechanical Conveyor

☐ Pneumatic Conveyor ☐ Equipment on Processing Machines

Name.....

Address..... City..... State.....

For Complete Textile Magnetic Protection . . . See Eriez First

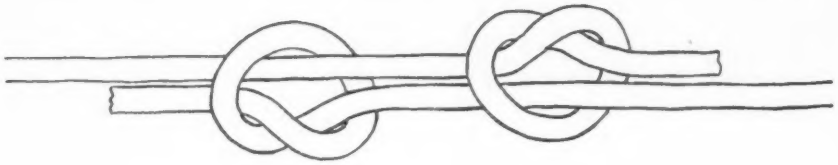
Eriez Jumbo Magnets are available for the Toughest Separation Job.

Eriez EAR' EEZ

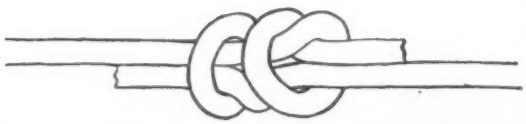
ERIEZ MANUFACTURING CO.

501 EAST 12th ST. ERIE, PENNA.

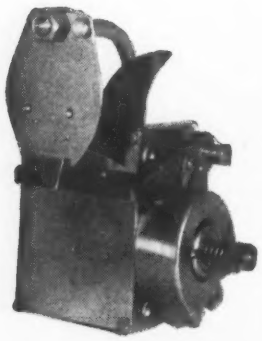
DO YOUR KNOTS SLIP?



USE THE FISHERMAN'S KNOT



TWO SINGLE KNOTS PULLED UP AGAINST EACH OTHER

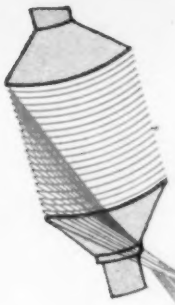


The knot tier is a small precision made unit that can be replaced by a spare knotter in two minutes

All of our Traveling Spindle Winders tie this small, smooth, non-slipping Fisherman's knot

ABBOTT MACHINE COMPANY

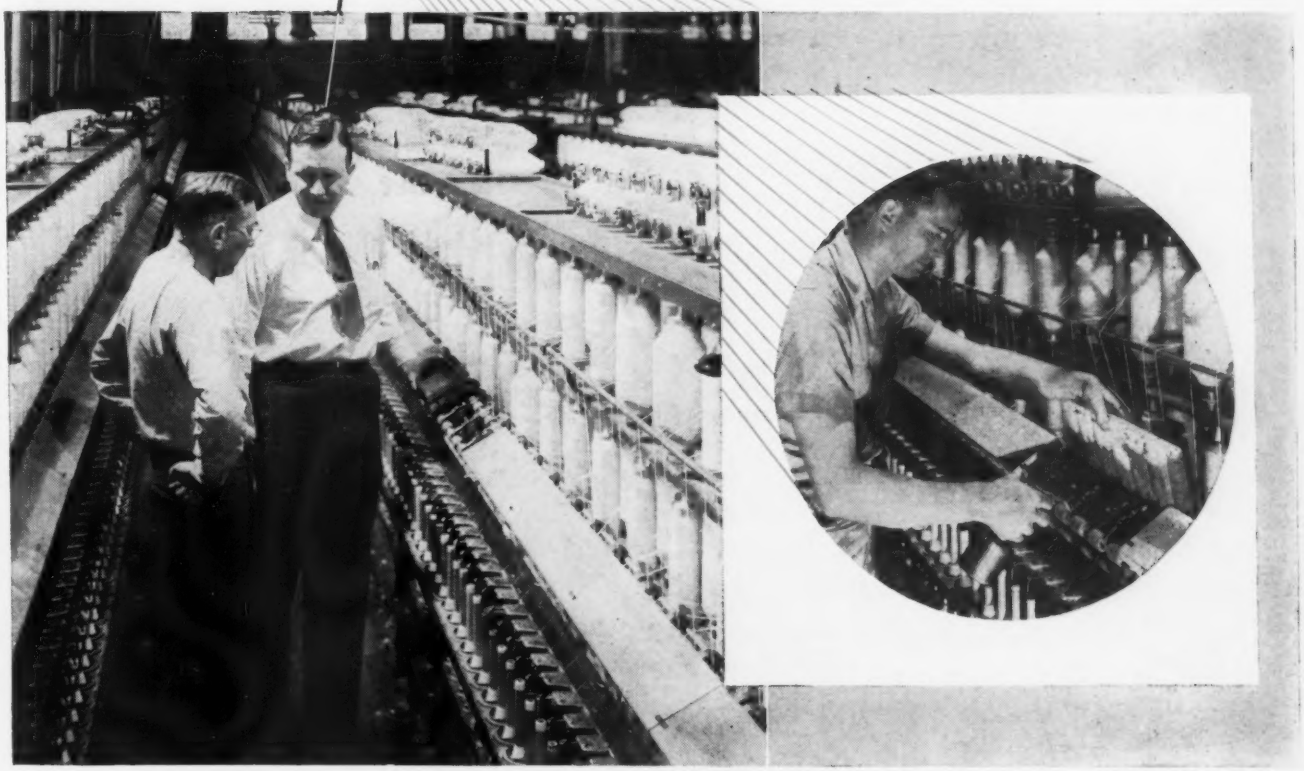
WILTON, N. H.



"Gulf Quality Lubricants

help us get full advantage of the improvements made in our spinning frames"

says this General Superintendent



The General Superintendent consults with a Gulf Lubrication Engineer on spinning frame lubrication.

"WE recently installed long draft attachments on our frames and stepped up spindle speeds," says this Mill Superintendent. "To help maintain the increased poundage resulting from these improvements, we selected Gulf quality oils and greases. We know from experience that with these quality lubricants we insure less spotting and down time, lower power and maintenance costs."

To get the benefits of all recent developments in scientific lubrication, call in a Gulf Lubrication Engineer. He will recommend the right Gulf lubricants and the most suitable methods of application for every machine—suggest ways and means to help you get greater poundage at lower costs.

The co-operative counsel of a Gulf Lubrication Engineer—and the complete Gulf line of more than 400 quality oils and greases—are available to you through 1200 warehouses located in 30 states from Maine to New Mexico. Write, wire, or phone your nearest Gulf office today.

Gulf Oil Corporation · Gulf Refining Company

Division Sales Offices:

Boston · New York · Philadelphia · Pittsburgh · Atlanta
New Orleans · Houston · Louisville · Toledo

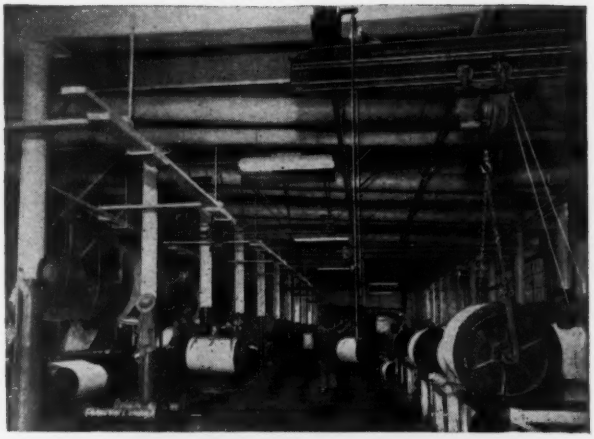
GULF INDUSTRIAL LUBRICATION

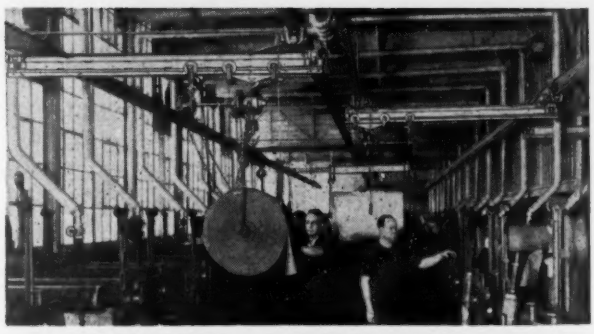
FREE MOVING CRANES

For

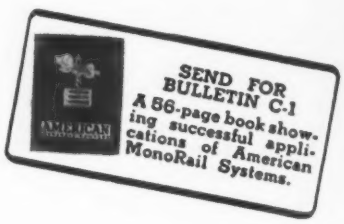
LOW COST HANDLING

American MonoRail Cranes supply overall coverage. Handling is not tied down to craneways since interlocking devices permit transfer in any direction. Free moving cranes serve every square foot of operating area. American MonoRail Cranes are available for any type of job. Low cost installation dovetails with low cost operation. They offer all the advantages of lightness, easy movement, strength, live-load capacity up to 5 tons.





Consultation with American MonoRail engineers will reveal why American MonoRail Equipment has been selected to serve the nation's largest industrial plants. We invite your inquiry — no obligation of course.



THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE **CLEVELAND 7, OHIO**

LYDIA MILLS Mounts
OVERHEAD BELT-DRIVEN
Looms and Folders on

UNISORB

without
BOLTS OR LAG SCREWS

Clinton Cotton Mills, Clinton, S. C., has mounted its *overhead belt-driven* Draper Model E looms on Unisorb — without bolts or lag screws.

Clinton finds Unisorb equally effective for mounting its Curtis & Marble folders.

Special cement bonds Unisorb to the flooring surface with a holding strength of 1500 lbs. per square foot *minimum!* Permanent set absolutely prevents any riding.

By isolating vibration, Unisorb slashes building maintenance costs, protects machinery, reduces down-time.

And by providing quieter surroundings, Unisorb mounting eases fatigue, helps people work better!

Now, write for a sample and complete specifications.

LOOK FOR THE RED CENTER AND UNISORB BRAND MARK

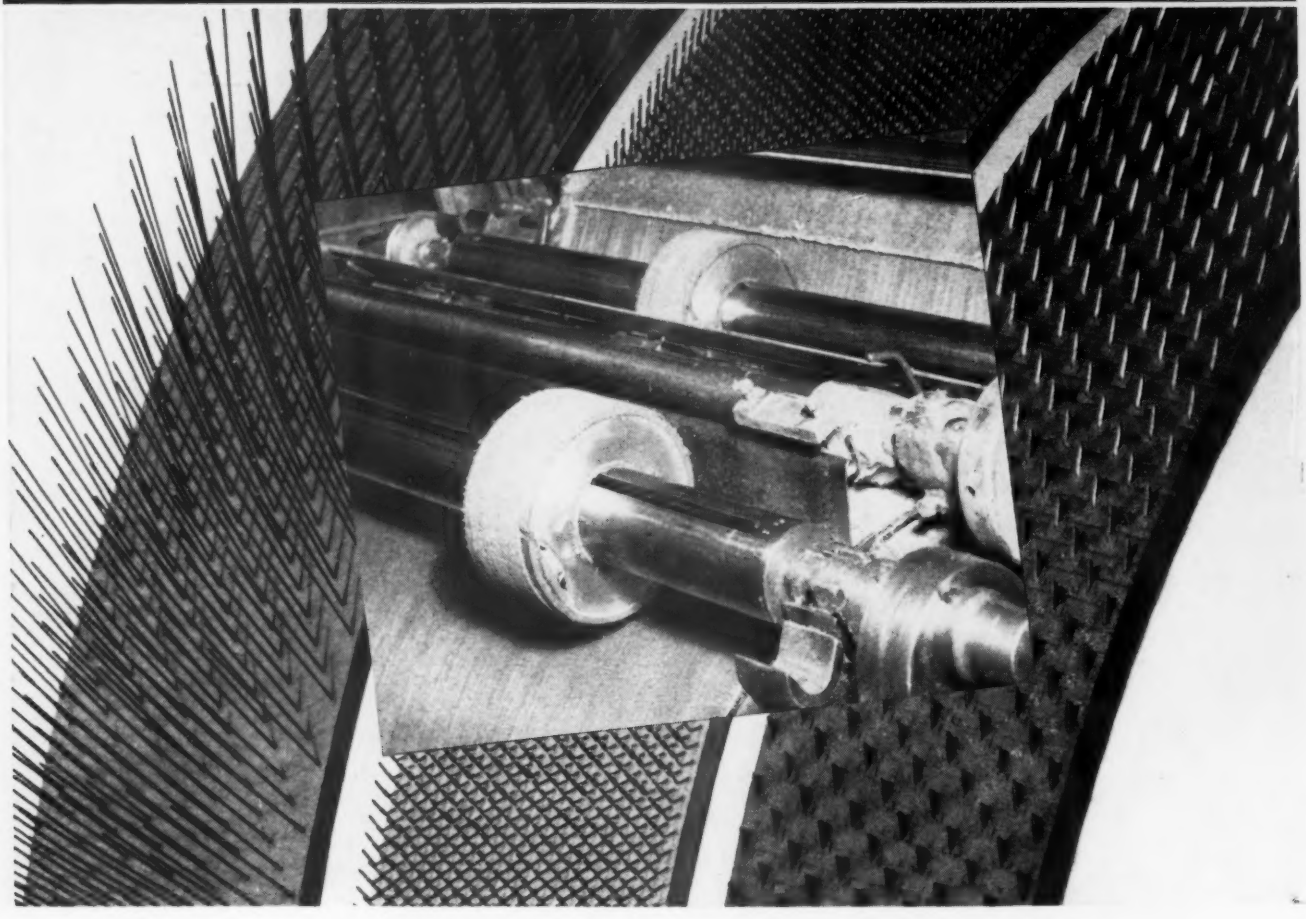
THE FELTERS COMPANY

210-W SOUTH STREET, BOSTON, MASSACHUSETTS

Offices: New York, Philadelphia, Chicago, Detroit.
Sales Representatives: San Francisco, St. Louis.
Southern Representative: Industrial Supply Co., Clinton, S. C.
Southwest Representative: Textile Supply Co., Dallas, Texas
Mills: Johnson City, N. Y.; Millbury, Mass.; Jackson, Mich.

Foreign Representatives: ARGENTINA—PARAGUAY: Roberto Zander, 345-353 Juan Jaures, Buenos Aires; BRAZIL: Cia Industria E. Comercio Glossop, Rua Visconde de Inhauma, 62, Caixa Postal, 265, Rio de Janeiro; Rua Florencio de Abreu 438/442, Caixa Postal, 1546, Sao Paulo; CHILE: W. L. Robinson, Casilla No. 4075, Santiago; COLOMBIA: C. E. Halaby & Co., Ltd., Airmail Box 650, Medellin; EASTERN MEDITERRANEAN AREA: The Arlind Corp., 509 Madison Avenue, New York 22, N.Y.. URUGUAY: Roberto Zander, Montevideo Ltda., Calle Uruguay, 1711, Montevideo; VENEZUELA: Herbert Zander & Co., P. O. Box 1291, Caracas; MEXICO: I. Slobotzsky, Avenida Uruguay 55, Apartado 1192, Mexico, D. F.

How to add *Life* to your CARD CLOTHING



Grind Carefully!

It is admittedly essential to good carding that card wire points be sharp and keen. Therefore grinding is necessary. But it is equally necessary that all grinding be done carefully.

Card clothing never has a better point than when it leaves our factory, and a minimum of *effective* grinding will best maintain this good condition. The selection of emery of proper grain or size, the regular replacement of worn emery before it has lost its effectiveness and careful maintainance of the grinding equipment are all important when grinding card clothing.

Ashworth representatives are always available to assist you to improve the quality of your carding. These men are specialists of long experience, whose only job is to inspect your cards and make recommendations that will help you. This free service includes attention to chains, bearings and settings as well as clothing.

Ask your nearest Ashworth representative to call. He will be able to check your grinding methods carefully and suggest advisable changes or improvements. This service is without cost or obligation to you.

PRODUCTS and SERVICES

Card Clothing for Cotton, Wool, Worsted, Silk, Rayon and Asbestos Cards and for all Types of Napping Machinery • Brusher Clothing and Card Clothing for Special Purposes • Lickerin Wire and Garnet Wire • Sole Distributors for Platt's Metallic Wire • Lickerins and Top Flats Reclothed.

ASHWORTH BROS., INC.
AMERICAN CARD CLOTHING CO. (Woolen Div.)
Fall River*†‡ Worcester*‡ Philadelphia*†‡ Atlanta†‡
Greenville†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
*Factory †Repair Shop ‡Distributing Point

Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS

SOAP GOES UP...SOAP GOES DOWN

but **NACCONOL NR** still

COSTS LESS than soap

DOES MORE than soap

Additional production of NACCONOL NR now available.
Inquiries invited.

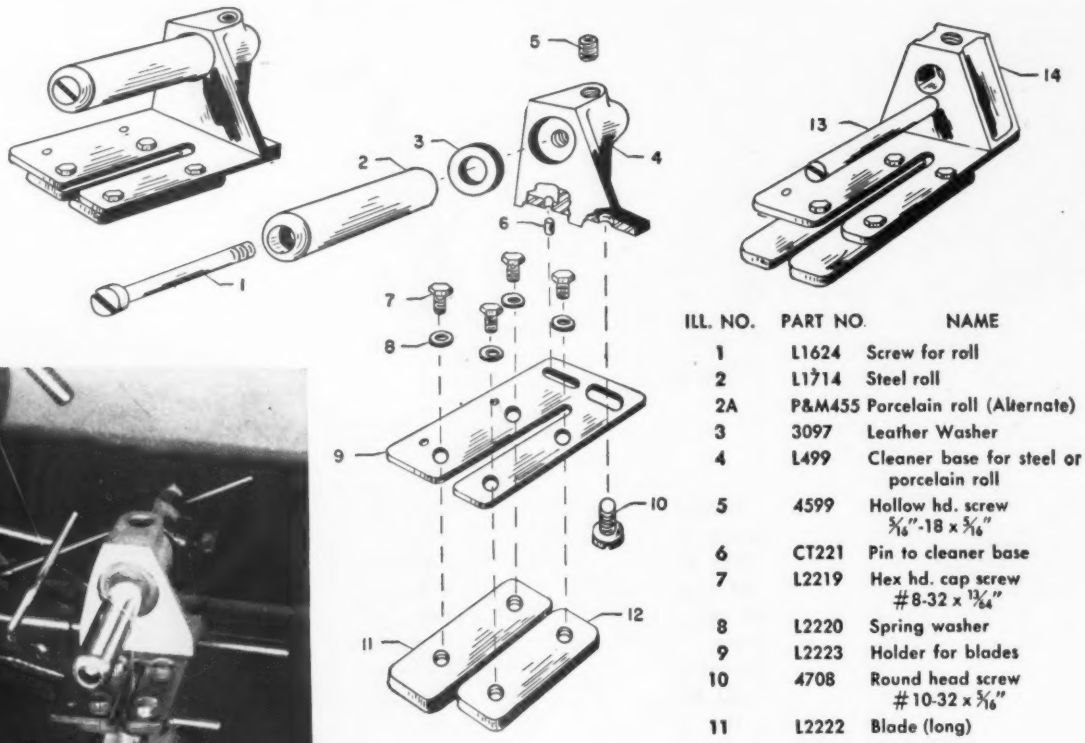
* Reg. U.S. Pat. Off.

National Aniline DIVISION • ALLIED CHEMICAL & DYE CORPORATION

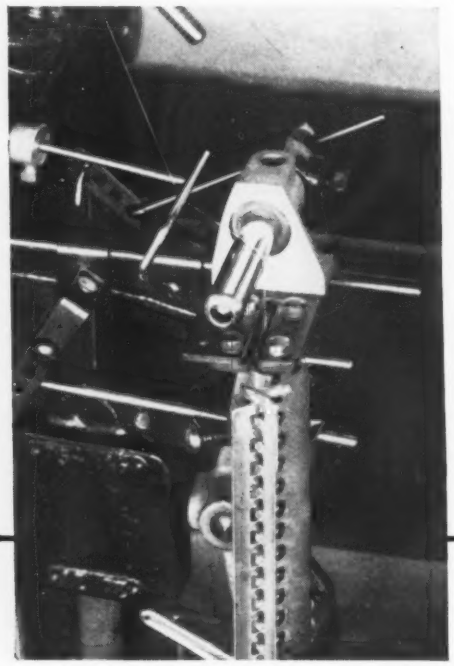
40 RECTOR ST., NEW YORK 6, N. Y. • BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • SAN FRANCISCO • PORTLAND, ORE. GREENSBORO • CHARLOTTE • ATLANTA • NEW ORLEANS • CHATTANOOGA • TORONTO

ZENITH YARN CLEANER

It's Now A Foster Product



ILL. NO.	PART NO.	NAME
1	L1624	Screw for roll
2	L1714	Steel roll
2A	P&M455	Porcelain roll (Alternate)
3	3097	Leather Washer
4	L499	Cleaner base for steel or porcelain roll
5	4599	Hollow hd. screw 5/16"-18 x 5/16"
6	CT221	Pin to cleaner base
7	L2219	Hex hd. cap screw #8-32 x 13/64"
8	L2220	Spring washer
9	L2223	Holder for blades
10	4708	Round head screw #10-32 x 5/16"
11	L2222	Blade (long)
12	L2221	Blade (short)
13	L2235	Guide bar
14	L2057	Cleaner base for guide bar



We have recently purchased the manufacturing and patent rights, tools and patterns for the Zenith Yarn Cleaner. This device for catching imperfections in rayon and other filament yarns is particularly suitable for our Model 75 winders. It can be readily attached to machines now in use, as well as to new machines on order.

ADVANTAGES

Keeps blades parallel. Slot width is uniform along entire length of cleaner.

Settings from .001 to .04 accomplished quickly and accurately.

Blades have both surfaces ground and then lapped for extra smooth, fine finish. They are thus reversible and have double life.

Blades made of special alloy steel hardened throughout for extra long life.

Guide bars are steel or porcelain.

Steel parts are chromium plated or nitrided.

Three blade combinations are possible—2 long blades, 2 short blades, or 1 long and 1 short blade.

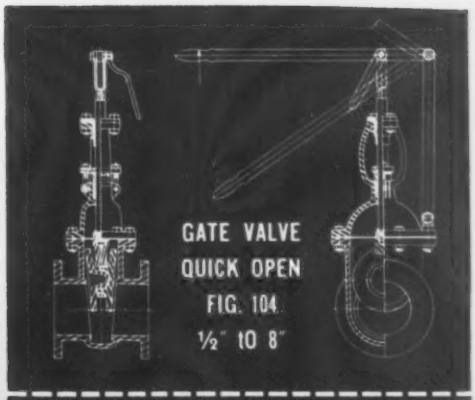
FOSTER MACHINE CO.

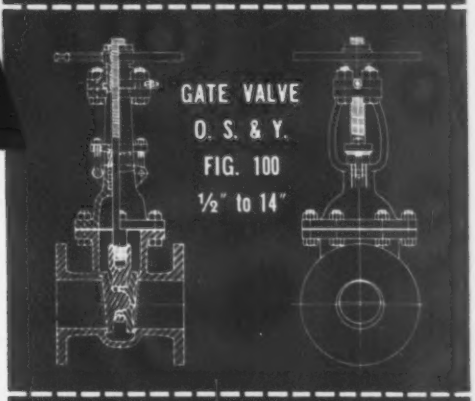
WESTFIELD, MASSACHUSETTS

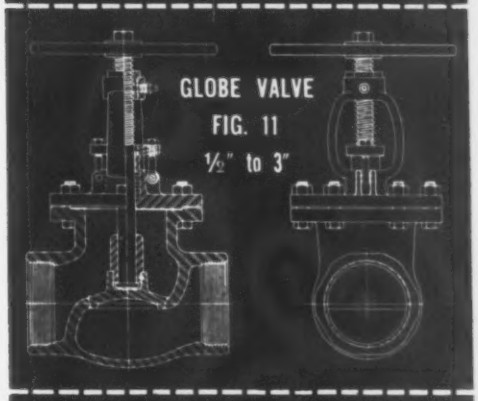
Southern Office: Johnston Building, Charlotte, North Carolina; Canadian Representative: Ross, Whitehead & Company, Ltd., University Tower Building, 660 Ste. Catherine Street West, Montreal, Quebec.

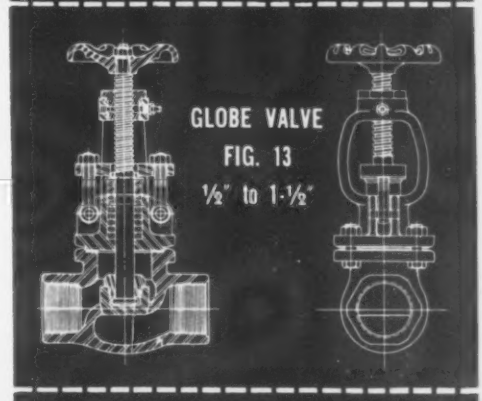
Now Available from Stock

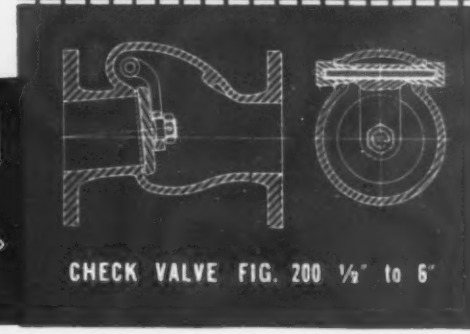
COOPER Certified Stainless STEEL Valves and Fittings





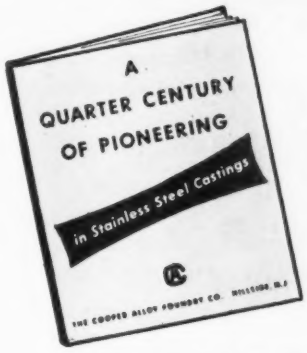






✻ **Backed by 25 years of Stainless Steel "know how", each Cooper valve or fitting is "Certified" to do its job efficiently . . . for Cooper registers the analysis of each heat, and stamps each casting with its heat number. When desired, a certificate of the analysis and heat number is issued which applies to all Stainless Steel parts which come in contact with the liquid being handled. Each valve or fitting rigidly meets the specifications of the job.**

COOPER Stainless Steel Valves and Fittings are sold through the largest Stainless Steel distributors in the country. Check with your local distributor.



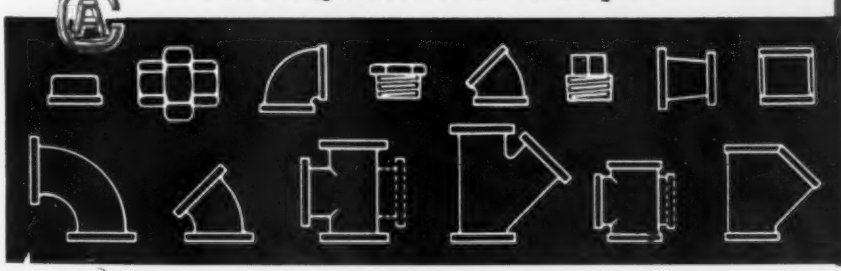
Just off the Press!

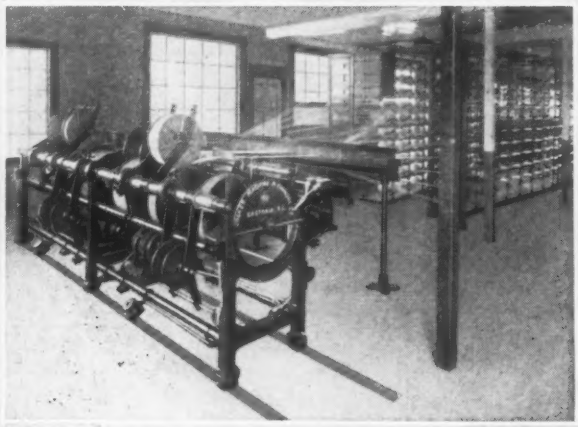
The behind-the-scenes story of Cooper and 25 years of pioneering in Stainless Steel Castings . . . taking you on a tour of Cooper's facilities and detailing the production methods employed in Stainless Steel Castings. We will be glad to forward a copy upon request.

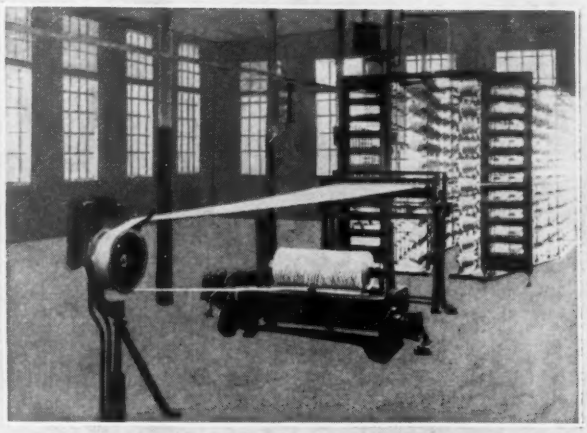
The COOPER ALLOY FOUNDRY CO.

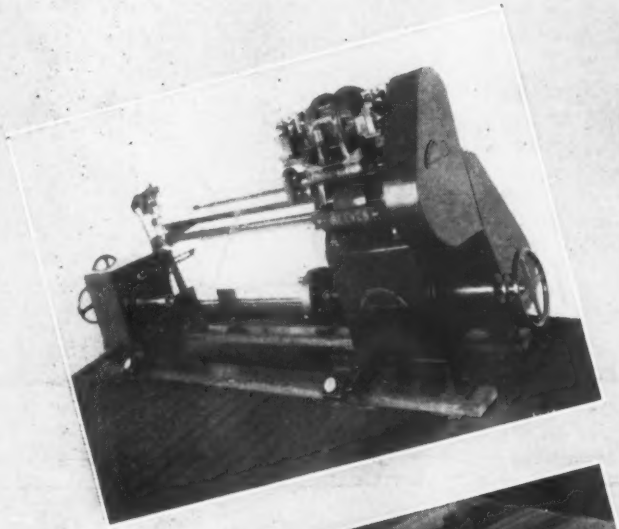
HILLSIDE, N. J.

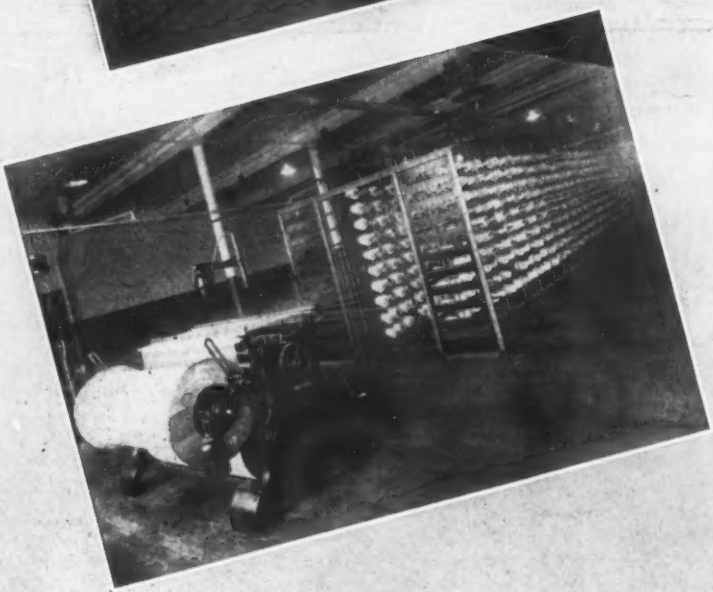
Specialists in Corrosion Resisting Stainless Steel
. . . For a Quarter of a Century . . .











75
YEARS OF LEADERSHIP

For 75 years the name Cocker has stood for the best in warping equipment.

So well have all Cocker machines been built that much of the equipment produced during our first year of business is still in daily service and still paying dividends to its owners.

Upper Right:
HIGH SPEED BALL WARPER

Upper Left:
HIGH SPEED MULTIPLE HEAD NARROW FABRIC WARPER

Center:
HIGH SPEED SPINDLE DRIVEN BEAM WARPER

Bottom:
HIGH SPEED SECTION BEAM WARPERS

COCKER
MACHINE and FOUNDRY
COMPANY
GASTONIA, NORTH CAROLINA

Saran BY NATIONAL

WEBBING WOVEN OF

CREATES A NEW CONCEPT IN MODERN FURNITURE

The versatility of SARAN monofilaments is demonstrated again in the weaving of narrow fabrics that lend themselves admirably to the creation of modern furniture. In interesting textures and striking colors, these new fabrics give the designer free reign in displaying his ingenuity. SARAN woven fabrics are safe from dirt, alcohol, acids. They won't snag, stretch or scuff. Their remarkable abrasion-resistance endows them with magical durability. These fabrics are bringing beauty and livability to the home ...an inviting atmosphere to hotels, clubs and restaurants.

Now, SARAN monofilaments are available as fine as .005"—offering a still wider range of weaving possibilities.

Let us tell you how SARAN monofilament can build new sales opportunities for your product.

SARAN BY NATIONAL denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Saran, a vinylidene chloride copolymer made by The Dow Chemical Company an' supplied to mills, weavers and other fabricators for specific end uses.

TRADE MARK REG. U. S. PAT. OFF.

The NATIONAL Plastic Products Company

ODENTON · MARYLAND

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NEW YORK, EMPIRE STATE BUILDING • LOS ANGELES: BANKERS BUILDING

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

ESTABLISHED 1840

S/V FINISHING OILS A and B improve wide range of Finishing Operations—Aid in Mechanical Pre-Shrinking

S/V Finishing Oils A & B offer a unique combination of selected ingredients that assure outstanding results in a wide range of finishing operations.

For plain softening, for instance, they form highly dispersed emulsions that penetrate rapidly into the fibers, giving uniform softness to such cloths as shirtings, draperies, percales, corduroys, velvets and velours. Where a particularly soft hand is required, S/V Finishing Oil B is recommended.

For starching operations, S/V Finishing Oils are compatible with virtually all starch mixes, thoroughly plasticize starch, gums and other materials. They prevent brittleness and minimize cracking or chafing-out even in heavy back filling applications.

Their excellent wetting and re-wetting qualities make them particularly valuable in both starched and unstarched materials which are to be mechanically pre-shrunk to definite standards.

★ ★ ★

Get recommendations from your Socony-Vacuum Representative.

SOCONY-VACUUM OIL CO., INC., 26 B'way, New York 4, N. Y., and Affiliates: Magnolia Petroleum Co., General Petroleum Corp.

Better Processing for ALL Textiles

Woolens . . . S/V Woolrex Oils improve carding and spinning. Scour out easily.

Worsteds . . . S/V Worstex Oils lubricate stock uniformly. Improve spinning.

Water Repellents . . . S/V Products give maximum repellency with minimum amounts.

Finishing . . . S/V Finishing Oils give excellent wetting, re-wetting and softening effects.

Shrinkage Process . . . S/V Finishing Oils insure quick, uniform re-wetting.

Rayon Processing . . . S/V Rayon Oils add softness to rayon fibers.

Process Products

SOCONY-VACUUM

Socony-Vacuum Process Products

to appreciate the beauty and comfort which Aberfoyle Mercerized Yarns impart to knitted outerwear and underwear, stockings and anklets. And their parents, certainly, can appreciate the added strength and service which Aberfoyle Yarns lend to cotton garments.

This growing appreciation stems from Aberfoyle's long, invaluable experience in the manufacture of *mercerized cotton yarns.*

Made of Durene® multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash

NEOPHIL

MADE OF Wearwist YARN MERCERIZED COTTON

* Neophil, the Nylon Seaming and Looping Thread for Nylon Full-Fashioned Hosiery, made by the Premier Thread Co., Pawtucket, R. I.

NATURAL, BLEACHED, DYED AND MERCERIZED YARNS

ESTABLISHED 1883
aberfoyle Durene®
AMERICA'S OLDEST MERCERIZERS

ABERFOYLE MANUFACTURING COMPANY
123 South Broad Street, Philadelphia, Pa.

—and in the South
ABERFOYLE MANUFACTURING COMPANY
Belmont, North Carolina

Representatives in principal textile centers of the world

®Reg. U. S. Pat. Off.

...BUT EMPLOYERS MUTUALS PHYSIOTHERAPY SAVED IT FOR THIS CARPENTER

A plunge into hot, searing tar when he fell from a scaffold left this carpenter's arm 40% disabled—with little possibility of improvement.

But after five months of treatment by Employers Mutuals physiotherapy department the disability was reduced to 5% and the man was able to go back to work at his trade.

* * *

It is this human, mutually helpful attitude of Employers Mutuals which make them such unusual, such fine insurance companies with which to carry your casualty and fire insurance.

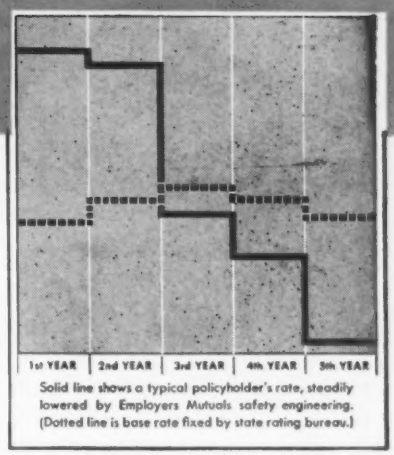
For Employers Mutuals are more than insurance selling organizations. They are service organizations skilled in accident prevention, industrial health programs, equitable claim adjustments, and other services which reduce your insurance costs.

* * *

Whether you own a car or home, employ people, or are liable for injuries sustained by a guest in your home or customers in your place of business, you need protection.

For a simple explanation of the insurance that will protect you, get in touch with the Employers Mutuals man.

He will give you full information on Public Liability . . . Automobile . . . Plate Glass . . . Burglary . . . Workmen's Compensation . . . Fidelity Bonds . . . Group Disability (Health, Accident, Hospitalization and Surgical Benefits) . . . and other casualty insurance . . . Fire . . . Tornado . . . Extended Coverage . . . Inland Marine . . . and allied lines of insurance. All policies are nonassessable.



Solid line shows a typical policyholder's rate, steadily lowered by Employers Mutuals safety engineering. (Dotted line is base rate fixed by state rating bureau.)

Write on your business letterhead for this fine new *Dictionary of Insurance Terms*. It will help you to understand insurance. Address: Employers Mutuals of Wausau, Wausau, Wisconsin.

EMPLOYERS MUTUALS OF WAUSAU . . . make insurance understandable

EMPLOYERS MUTUALS OF WAUSAU

EMPLOYERS MUTUAL LIABILITY INSURANCE COMPANY OF WISCONSIN
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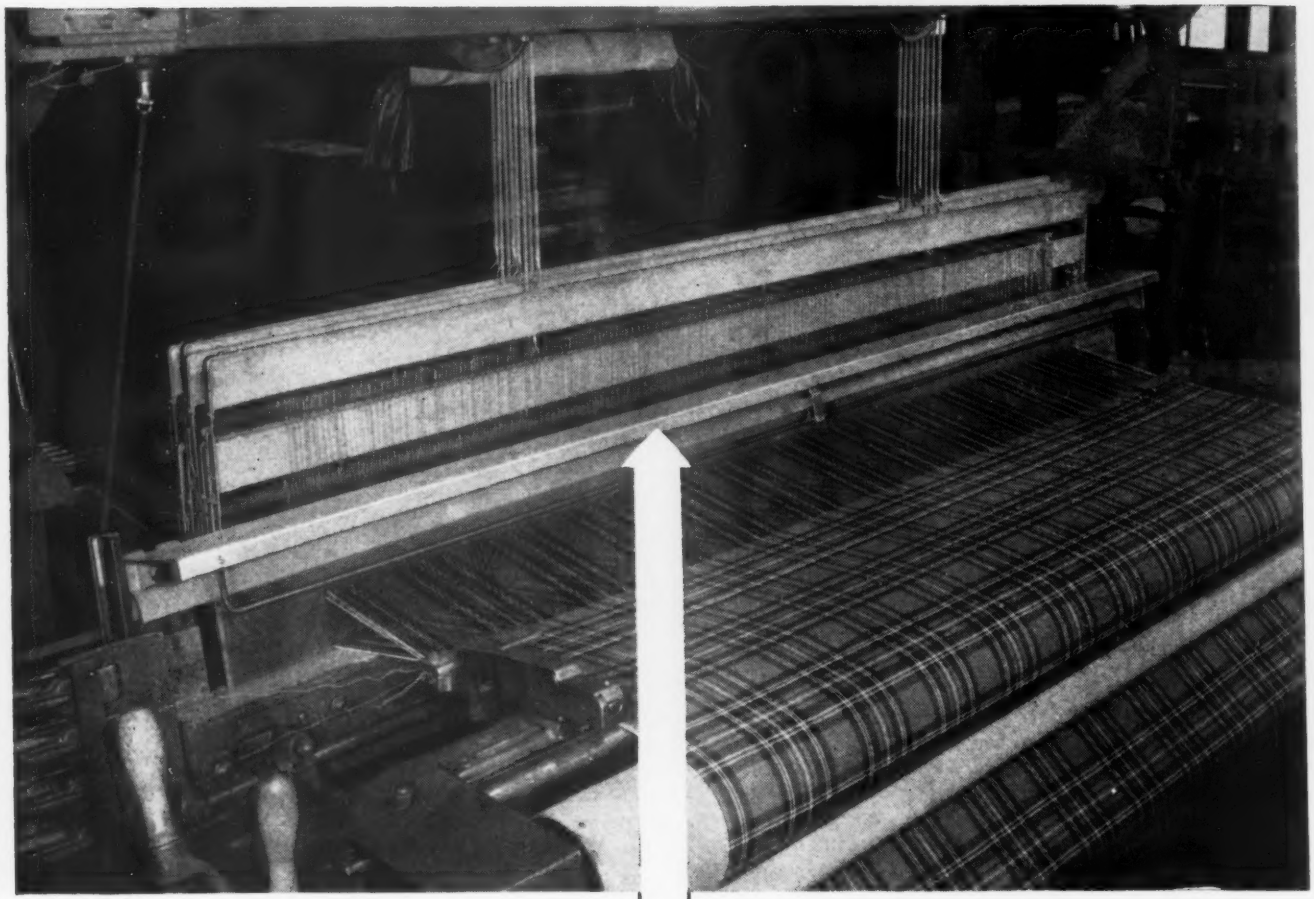
HOME OFFICE: WAUSAU, WISCONSIN

Offices in Principal Cities—Consult Your Telephone Directory

Why Magnesium?



. . . in these new HANDRAILS for C&K Looms

Extruded Magnesium Handrails have no distortion from humidity in the weave-room.

Extruded Magnesium Handrails have a cross-section as strong as wood with far less bulk and weight.

Extruded Magnesium Handrails show far less deflection than wood . . . give evidence of lasting longer on the loom.

Extruded Magnesium Handrails would seem to help to hold down both the selling price and the operating cost of looms.

That's "why magnesium"! And that is why C&K feels that actual tests now under way in several mills will show that this new idea in handrails (as all new ideas *must*) will answer *yes* to one or more of C&K's 6 Sentries:

1. Does it increase Speed of Loom Operation?
2. Does it increase Ease of Loom Operation?
3. Does it improve Quality of Fabric?
4. Does it decrease Cost of Maintenance?
5. Does it improve Continuity of Operation?
6. Does it improve Appearance and Utility?

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N.C. • ALLENTOWN, PA.

CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

between Today's Knowledge . . . and Tomorrow's Looms

From ¼ H.P. to 100 H.P.

dependable motor control by

FEDERAL NOARK

Where performance counts, count on Federal NOARK Motor Starters to keep production right on schedule — without delays resulting from control failure or unnecessary stoppage for maintenance.

All Federal NOARK Magnetic Motor Starters include manual or automatic reset overload relays . . . a feature found on no other motor starter.

Plan now to control your vital power circuits with always dependable Federal NOARK Motor Starters.

Mounting dimensions conform to new NEMA standards.

Federal NOARK
INDUSTRIAL CONTROLS

Executive Offices: 50 Paris Street, Newark 5, N. J.
Plants { Hartford, Conn. • Newark, N. J.
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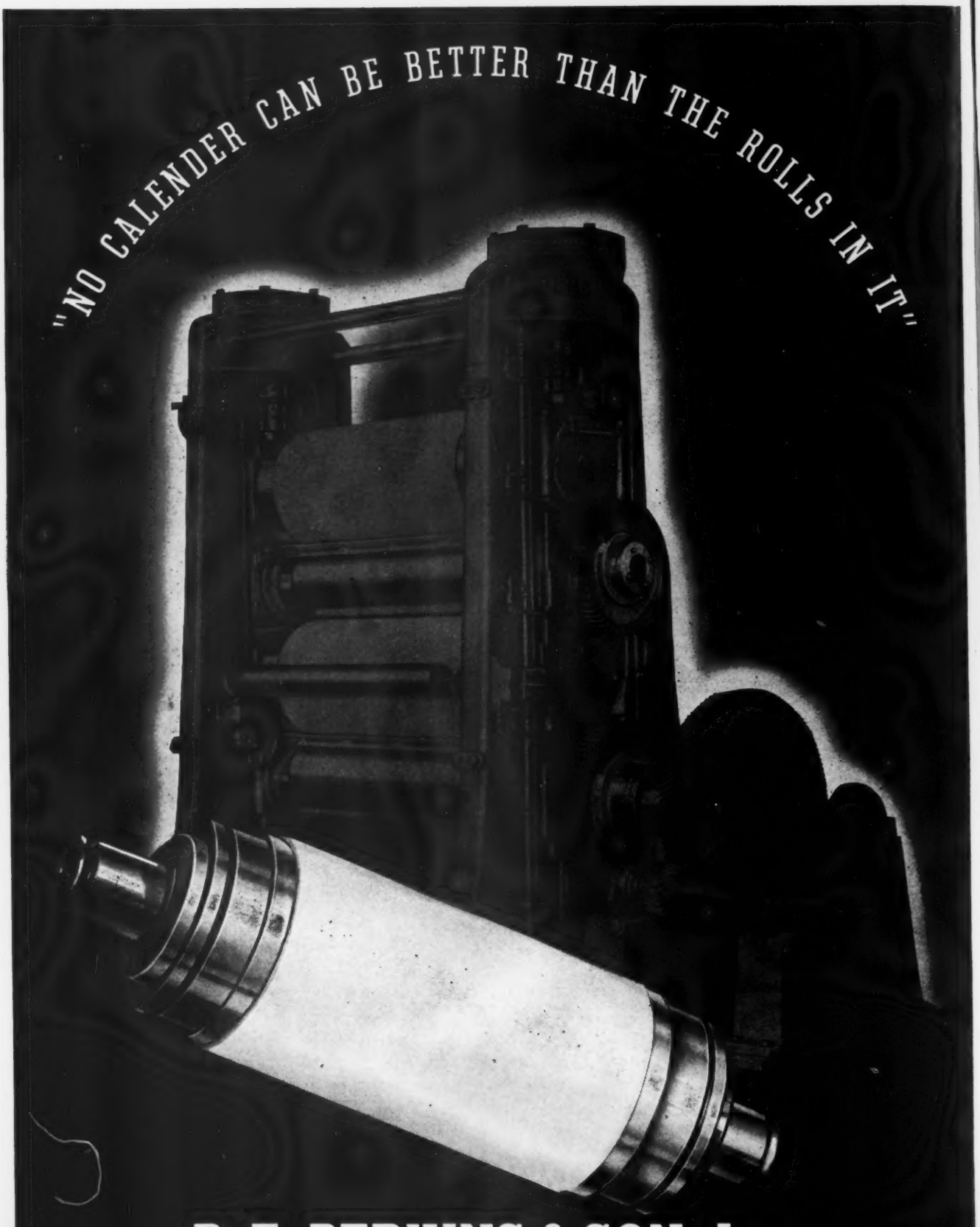
Federal Electric Products Company, Manufacturers of a Complete Line of Electrical Products Including:
Motor Controls • Safety Switches • Service Equipment • Circuit Breakers • Panelboards • Bus Duct

"NO CALENDER CAN BE BETTER THAN THE ROLLS IN IT"



B. F. PERKINS & SON, Inc.

ENGINEERS AND MANUFACTURERS

HOLYOKE, MASS.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

THIS AERO BRAND STEARATES

STORY SPEAKS FOR ITSELF!

AERO* BRAND STEARATES . . . Calcium . . . Zinc . . . Aluminum . . . Magnesium . . . are products of the finest manufacturing facilities of their kind. The famous AERO BRAND seal on your stearate supplies means a fine, fluffy texture, uniformity and other recognized superior processing characteristics contributing basic advantages to the efficiency and economy of your operations. For product quality . . . for service . . . for the all-around dependability on which economical operations rely . . . it's CYANAMID AERO BRAND STEARATES.

CYANAMID'S MODERN FACILITIES BECOME YOUR DEPENDABLE SOURCE OF SUPPLY WHEN YOU SPECIFY . . .

AERO BRAND STEARATES

Industrial Chemicals Division

AMERICAN CYANAMID COMPANY

30 ROCKEFELLER PLAZA · NEW YORK 20, N. Y.

*Trade Mark

Across the Textile World you hear it!
Better painting all ways with . . .

Malouf Company
DESIGNERS AND MANUFACTURERS OF
DixieDeb JUNIOR FROCKS
315 JACKSON STREET TELEPHONE CENTRAL 6358
Dallas 2, Texas

October 29, 1946

The Glidden Company,
1029 Elm Street,
Dallas, Texas.

Attention: Mr. Wilkinson

Gentlemen:

We have just painted our factory building, three floors, at 315 Jackson Street. Part of this building has been used as a filling station and garage. Some of the walls and ceilings were of rough brick plaster and rough timbers. One coat of Spray-Day-Lite covered the ceiling and walls perfectly.

We knew we had a difficult job to cover these surfaces with one coat, but we are very happy with the results obtained with Spray-Day-Lite.

Yours very truly,

MALOUF COMPANY
S. J. Malouf
PRESIDENT

Now there's also
BRUSH-DAY-LITE
All of the established advantages of famous GLIDDEN SPRAY-DAY-LITE are now offered you in BRUSH-DAY-LITE, especially formulated for brush application.

Yoney's
CLEANSERS AND DYERS
FAIRVIEW and SEVENTEENTH
READING, PENNSYLVANIA
Phone 7139

January 14, 1947

Glidden Company
3rd & Bern Streets
Reading, Penna.

Attention: Mr. L. C. Smith

Dear Sir:

Some years ago when we built our new plant we used your Spray Day Lite. Recently we had occasion to paint our new addition and naturally we used your Spray Day Lite again.

We were greatly pleased with the whiteness and the hiding qualities on the one coat application and can recommend it to anyone who desires this beautiful finish.

Very truly yours,

YONEY'S CLEANERS & DYERS

JEY:GLK

RESTOR-IZING

CHARLES NAVASKY & Co.
MANUFACTURERS OF
CLOTHING SPECIALTIES
PHILIPSBURG, PENNA.
PHONE PHILIPSBURG 663

February 5, 1947

The Glidden Company
Third and Bern Streets
Reading, Pennsylvania

Dear Mr. Scott:

We are so well pleased with our newly painted SPRAY-DAY-LITE job, we thought you would like to know about it too.

Recently we felt the need to improve working conditions in our Sewing Rooms and consulted Mr. Fred Dunzik, local paint contractor, who recommended this product and applied it.

Your claims for it regarding lighting with same fixtures are fully substantiated as the accompanying photograph taken after painting reveals.

Very truly yours,

CHARLES NAVASKY & CO., INC.

EN:LS

★ ★ Glidden

SPRAY-DAY-LITE

BEFORE YOUR NEXT PAINT JOB WEIGH THESE 6 BIG ADVANTAGES OF AMERICA'S LEADING INTERIOR MAINTENANCE FINISH!

1. **SPRAY-DAY-LITE gives conventional two-coat results in only one coat.**
2. **Increases lighting efficiency by giving *maximum* light reflection and diffusion.**
3. **Provides smooth, solid covering over grimy, dirty and badly discolored surfaces of almost any type.**
4. **Its intense white does not yellow with age (also available in 10 attractive colors).**
5. **Durable, eggshell finish eliminates eye-straining glare—washes like tile.**
6. **Sprayed or brushed, it does not sag or run; produces little fog or mist when sprayed.**

TIME-TESTED

Pacemaker in Paints

Free! **A Practical Guide to "Sight Perfection" in Plants by Glidden Color Authorities**

Tells and shows how to follow scientific, E-Z-C Color Planning in painting interiors and machines to ease eyestrain, boost production, reduce accidents. Send coupon for it today. If you don't find all the guidance you need in this book, the Glidden Color Studio will design color plans tailored to your particular needs—without charge.

THE GLIDDEN COMPANY
Dept. T-8, 11001 Madison Ave., Cleveland 2, Ohio

☐ You may send your book on the scientific use of color in industrial plants, "Sight Perfection."

☐ You may send your SPRAY-DAY-LITE Color Chart showing the 10 attractive shades and suggested color combinations.

☐ You may have your representative call and demonstrate SPRAY-DAY-LITE in our premises without obligation on our part.

NAME_____

COMPANY _____ TITLE _____

ADDRESS_____

CITY AND STATE_____

"TUFFER" Men Help Carders to get *Better Results*

HOWARD-MADE products, backed by 80 years experience in the manufacture of card clothing, are only part of the service we offer you. We know that mills welcome assistance that speeds up production, makes tough jobs easier, and increases efficiency.

That's why we invite you to talk over your problems with a Howard representative. You will find him qualified to help you get better carding results. Your dealings with him will be confidential in every way—and, of course, there's no obligation on your part.

Contact your nearest Howard plant or branch office.

HOWARD BROS. MFG. CO.
WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C. **Branches:** Philadelphia, Pa. and Blanco, Texas

Direct Representation In Canada

A-8

TUFFER CARD CLOTHING **IMPROVES PRODUCTION ALL ALONG THE LINE**

Type WMKS **Interlocking** Safety Switch and Plug Receptacle

CONDULET*

for the control of all kinds of **portable electrical equipment** in both indoor and outdoor locations

Type WMKS Interlocking Safety Switch and Receptacle Condulet with Type DP Interlocking Plug

It's heavy duty! It's raintight!

Safety. Positive interlock prevents opening the case or withdrawing the plug unless the switch is "off". Switch can't be turned "on" unless the case is closed and the plug fully inserted.

Switches. Motor circuit switch. Quick make and break. Double break, reinforced, positive pressure-type blade and jaw construction. Positive pressure fuse clips. Combination solder or solderless wire lugs. 2 or 3-pole fusible.

Plug Receptacles. Style 1 is grounded through the shell of the plug and the receptacle housing. It will take the plugs used with the former Type MKS of the same rating. Style 2 is grounded through an extra pole and the shell. An eyebolt and wingnut prevents accidental withdrawal of the plug when the switch is open.

Cast metal case. Strong and durable. Four sturdy mounting feet. Many possible threaded hub arrangements for both vertical and horizontal conduit. Cover may be padlocked to prevent unauthorized entry. Operating handle may be padlocked "on" or "off".

Threaded operating shaft. Bearings permanently lubricated to resist corrosion and prevent the entrance of dust and moisture.

Horse-power ratings. 2 through 50 H. P. 30, 60, 100 or 200-ampere. 230 or 575-volt A. C.

Listed in Condulet Catalog 2500, Section 50.

*CONDULET is a coined word registered in the U. S. Patent Office. It designates a product made only by the Crouse-Hinds Company.

Our 50th Anniversary 1897 — 1947

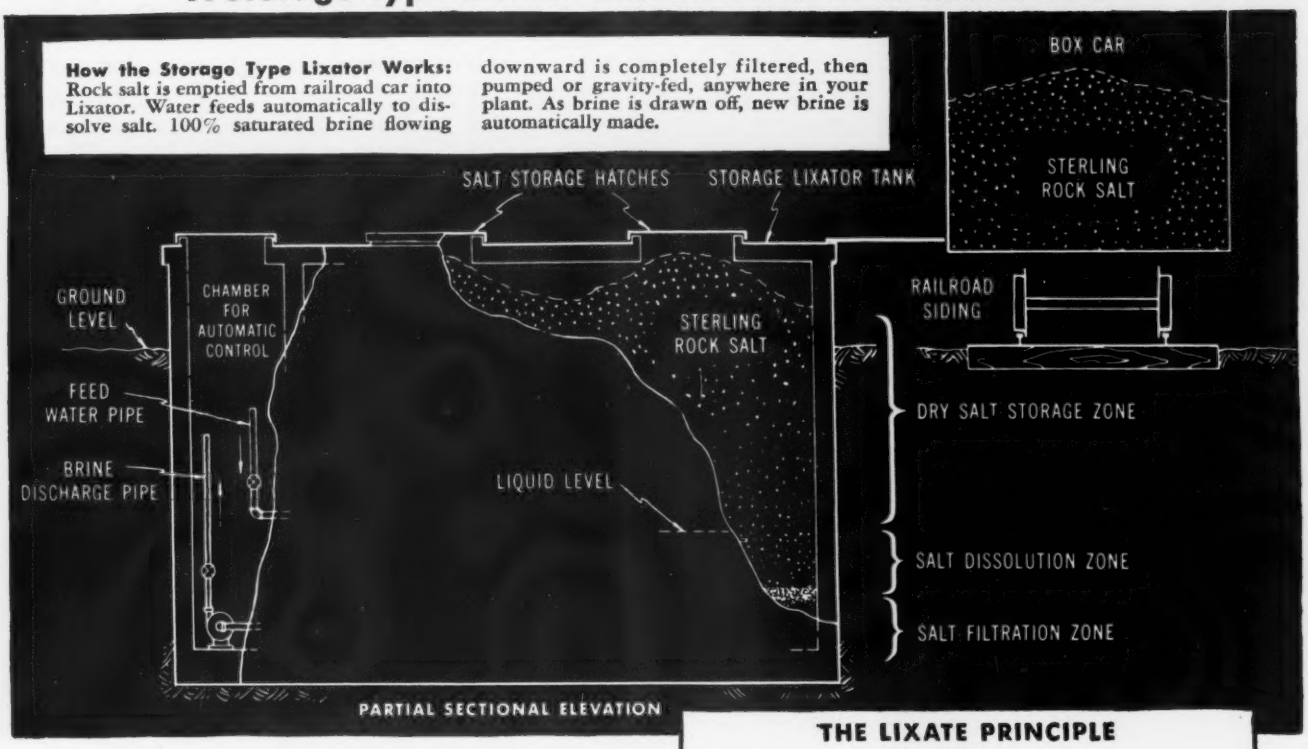
A Nationwide Distribution Through Electrical Wholesalers

CONDULETS
FLOODLIGHTS
TRAFFIC SIGNALS
AIRPORT LIGHTING

CROUSE-HINDS COMPANY
Syracuse 1, N. Y.

Offices: Birmingham – Boston – Buffalo – Chicago – Cincinnati – Cleveland – Dallas – Denver – Detroit – Houston – Indianapolis Kansas City – Los Angeles – Milwaukee – Minneapolis – New York – Philadelphia – Pittsburgh – Portland, Ore. – San Francisco Seattle – St Louis – Washington. *Resident Representatives:* Albany – Atlanta – Charlotte – New Orleans – Richmond, Va.
CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

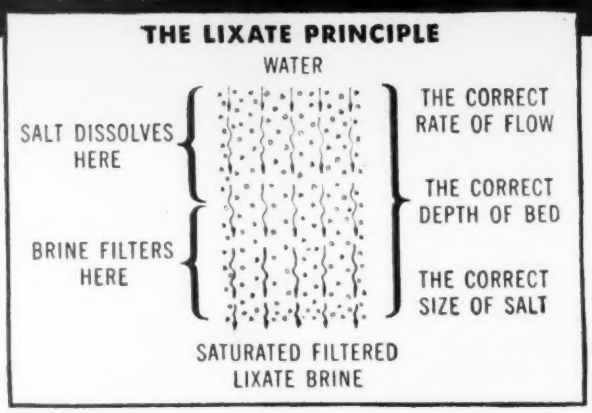
A Storage Type Lixator Unit Suitable for a Textile Mill


How the Storage Type Lixator Works: Rock salt is emptied from railroad car into Lixator. Water feeds automatically to dissolve salt. 100% saturated brine flowing downward is completely filtered, then pumped or gravity-fed, anywhere in your plant. As brine is drawn off, new brine is automatically made.
BOX CAR
STERLING ROCK SALT
SALT STORAGE HATCHES
STORAGE LIXATOR TANK
GROUND LEVEL
CHAMBER FOR AUTOMATIC CONTROL
FEED WATER PIPE
BRINE DISCHARGE PIPE
STERLING ROCK SALT
LIQUID LEVEL
RAILROAD SIDING
DRY SALT STORAGE ZONE
SALT DISSOLUTION ZONE
SALT FILTRATION ZONE
PARTIAL SECTIONAL ELEVATION

DAN RIVER MILLS' Storage Type Lixator Produces 8000 Gallons of Saturated, Filtered Brine per hour

"It Paid for itself in One Year"

Says W. B. CARROLL,
Superintendent of Dyeing



Once, salt had to be handled *eight different times*—even before it was dissolved by hand labor into brine—at Dan River Mills, Riverside Division, Danville, Va.

Today, Sterling Rock Salt is unloaded from railroad cars into an 8000-gallon-per-hour Storage Type Lixator right beside the tracks. From the Lixator, 100% saturated, clean, crystal clear, self-filtered brine flows automatically by pipe to the nearby stock dyehouse... *and 3,700 feet across the Dan River to the suiting dyehouse.*

The entire installation paid for itself within a year, thanks to operating economies made possible by the expertly designed, International Storage Type Lixator.

With long years of experience behind them in cooperating with the textile industry, International engineers are thoroughly familiar with the uses of salt as brine in dyeing machines and vats and for regenerating zeolite water softeners. In every use the Storage Type Lixator eliminates salt handling and waste. Its brine making capacity always equals your needs. It is a completely automatic system, delivering the exact quantity of brine required at every point of use.

Full details of how the Storage Type Lixator can save you man-hours and money and boost your production efficiency will gladly be furnished. Simply fill out and send the attached coupon.

INTERNATIONAL SALT COMPANY, INC.
Dept. TW-8, Scranton, Pa.

Gentlemen:

I would like complete information about the Storage Type Lixator.

*Name*_____

*Firm*_____

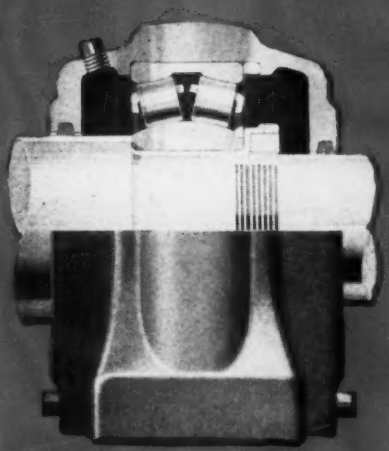
*Street*_____

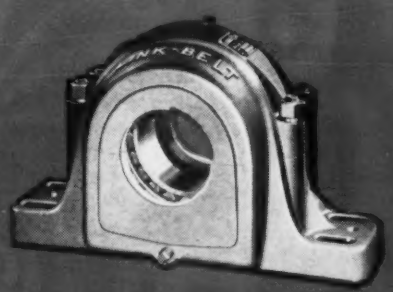
*City*_____ *State*_____

The LIXATE *Process*
Reg. U. S. Pat. Off.
for making brine

INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

To claim long life—to claim efficiency—to claim accuracy for Link-Belt Ball and Roller Bearings is merely to accent the obvious. More interesting to you is the completeness of Link-Belt's Ball and Roller Bearing line—mounted and unmounted. Still more interesting is the nation-wide organization of expert Link-Belt Bearing Engineers, whose sole service to Link-Belt rests *in their service to you.* Use our books (No. 2094 and 2095 sent immediately upon request)... but use also the expert knowledge of our Bearing Engineers on your design problems.





1 Heavy series precision-built double row self- aligning roller bearings.

2 Inner ring directly mounted on precision turned or ground shafting assures greatest accuracy.

3 Locknut clamps assembly securely to shaft and is prevented from loosening by serrated lock washer.

4 Felt seals for grease lubrication or "Spiro-Seals" for oil or grease lubrication.

5 True flat surfaces assured for nut pressure surface.

6 Housings drilled and tapped for drain plugs on both sides.

7 Casting spotted for dowel holes to locate unit on support. Slotted holes for foundation bolts.

8 Sturdy, compact, split housing provides convenience in mounting, lubrication and disassembly.

9 Tapped holes in cap take standard screw to raise cap off base without damage to finished surface.

10 Permits different methods of lubrication, such as grease, constant level oil or circulating oil.

11 Bearings can be fixed or floated axially. "C" spacers may be inserted or removed as required.

LINK-BELT

THE SYMBOL OF QUALITY — LINK-BELT — LB

BALL AND ROLLER BEARINGS

LINK-BELT COMPANY

Chicago 9 • Indianapolis 6 • Philadelphia 40
Atlanta • Dallas 1 • Minneapolis 5 • San Francisco 24
Los Angeles 33 • Seattle 4 • Toronto 8 • Offices, Factory Branch Stores and Distributors in Principal Cities.

KEY TO MORE P

Unit Responsibility

Here's proof of the value of unit responsibility! This modern weave room produces the highest quality product . . . most efficiently. Westinghouse planned engineering provides individual drives and controls, uniform illumination, and Precipitron, the electronic air cleaner that provides clean, pure air.

"FROM OPENING TO FINISHING... ELECTRICAL AND POWER EQUIPMENT DESIGNED FOR EACH JOB"

The economical application of Westinghouse apparatus and electric power to textile mills has given the industry a new conception of speed, economy . . . *and* an improved product.

Whether it's a single motor drive, a complete power system, an individual lamp, or an entire lighting program . . . you need only contact one organization for your complete electrical requirements. From the start, Westinghouse has maintained a complete, separate Textile Department, staffed by competent engineers. These men are on the job full time producing better power equipment, and more efficient methods of applying, distributing, controlling and utilizing electric power for textile mills.

All this knowledge is yours for the asking . . . at Westinghouse. You'll get a speedy, accurate and simple solution to your textile problem.

Call your nearest Westinghouse office or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-94755

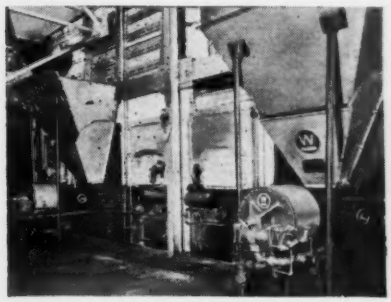
PRODUCTIVE POWER

"WESTINGHOUSE-EQUIPPED THROUGHOUT" MEANS SIMPLIFIED ORDERING, QUICKER INSTALLATION, MORE EFFICIENT OPERATION

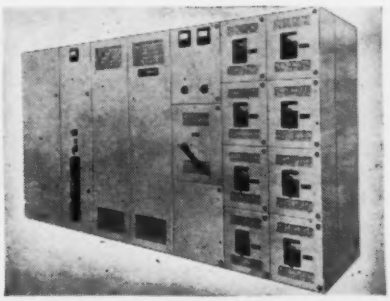
Putting power to work *productively* can be a major problem—or a simple one. When items must be selected, ordered and received from many sources, it means many chances for costly errors and delays . . . divided responsibility—or none at all—for performance of installed equipment.

Westinghouse offers the way to simplify the job. From equipment for generation of electrical or steam power, to the most specialized types of drives and control for its utilization, Westinghouse provides a single source of supply . . . one broad pair of shoulders competent to take responsibility for performance of all parts of the job.

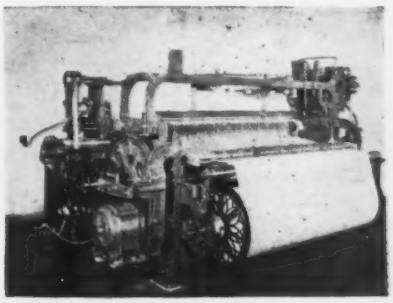
Here are a few of the places where Westinghouse unit responsibility prevents headaches . . . saves money . . . assures *more productive* power:



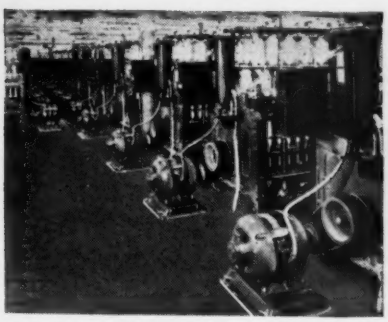
STOKERS—Ability to burn cheaper grades of fuel, and to eliminate smoke nuisance are two outstanding advantages of Westinghouse "Link-Grate" Stokers. These stokers fire the boilers supplying power and process steam in a New York textile mill.



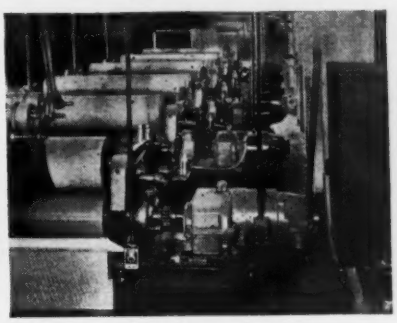
SWITCHGEAR—Westinghouse supplies a wide range of "Unitized" metal-clad switchgear that permits quick, economical installation. Unit shown contains a 750-kva air-cooled transformer, high-voltage metal-clad air breaker, and draw-out, low-voltage air circuit breakers.



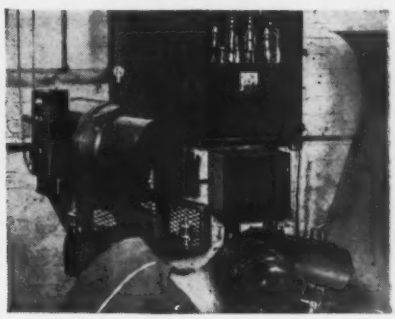
LOOM MOTORS—Westinghouse Loom Motors give maximum production with a minimum of power. Shown is a "weave room tested", specially-designed Westinghouse 1-1/2 hp loom motor driving a modern woolen and worsted loom.



LINT-FREE MOTORS—Installation of spinning frames, driven individually by Westinghouse Lint-Free Motors and controls. They're specially designed to provide the "cleanest running textile motor available".



GEARMOTORS—Westinghouse Gearmotors greatly facilitate the application of power for machines with slow-speed input shafts. Illustrated is a range drive, powered by Westinghouse Gearmotors.



MOT-O-TROL—This flexible electronic control solves any control problem requiring wide-range stepless speeds and close automatic regulation at all speeds and varying loads.

LIGHTING—Modern fluorescent lighting provides maximum "see-ability" in this textile mill. Westinghouse "planned lighting" is added proof of the value of single-source responsibility.

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

MORE PRODUCTIVE POWER FOR INDUSTRY

"BECAUSE THE CIRCLE-D 'FLOATS'

your production costs sink"

WHEN TRAVELER LIFE is lengthened from days to weeks, and your yarn yardage is increased at the same time—production costs are bound to go down. And down is where they must go for profitable operation in the face of increasing competition.

The Victor Circle-D, a distinctly different traveler, "floats" around the spinning ring with contact at only one point. This "floating" action reduces friction and heat, so that Circle-D Travelers last much longer than ordinary travelers.

What's more, the Circle-D permits a substantial step-up in spindle speeds with no perceptible increase in ends down—thus increasing the doffs per day. Also, the quality of the yarn is improved, since the flatter curve distributes the wear, prevents sharp grooving and consequent abrasion of the yarn. The result is more yards of a better yarn.

The Circle-D, made only by Victor, is recommended especially for fine combed and special yarns. A Victor Service Engineer will be glad to help you cut costs in your mill with Circle-D Travelers, or help you select the *right* traveler for any fiber, any blend you may be running. Write, wire, or phone the nearest Victor office for prompt service.

★

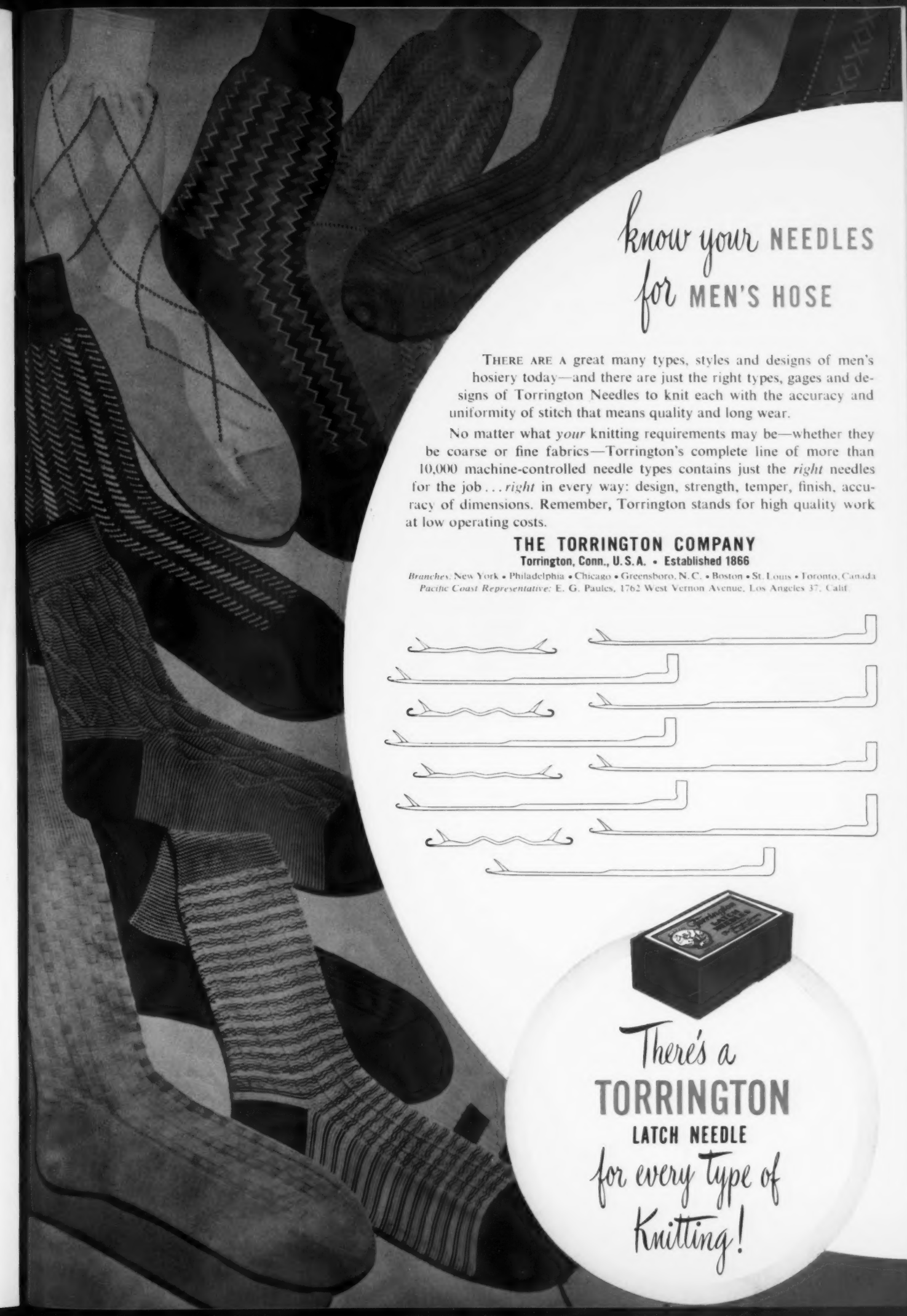
Keep a Step ahead with

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Matthewson St. . . . . Tel. Dexter 0737

GASTONIA, N. C. . . . . 358-304 West Main Ave. . . . . Tel. 247



know your NEEDLES for MEN'S HOSE

THERE ARE A great many types, styles and designs of men's hosiery today—and there are just the right types, gages and designs of Torrington Needles to knit each with the accuracy and uniformity of stitch that means quality and long wear.

No matter what *your* knitting requirements may be—whether they be coarse or fine fabrics—Torrington's complete line of more than 10,000 machine-controlled needle types contains just the *right* needles for the job . . . *right* in every way: design, strength, temper, finish, accuracy of dimensions. Remember, Torrington stands for high quality work at low operating costs.

THE TORRINGTON COMPANY

Torrington, Conn., U. S. A. • Established 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N.C. • Boston • St. Louis • Toronto, Canada
Pacific Coast Representative: E. G. Paules, 1762 West Vernon Avenue, Los Angeles 37, Calif.

There's a **TORRINGTON** **LATCH NEEDLE** for every type of Knitting!

Focus attention on <u>your</u> product...

by prolonging its service life, increasing its efficiency and dependability, and reducing operating and maintenance costs. These advantages can be obtained

Through improved anti-friction performance...

provided by compact, high-capacity Torrington Needle Bearings. Wear is virtually eliminated through the even distribution of loads over the full complement of small diameter rollers. Power requirements are reduced to a minimum by Needle Bearings' low coefficient of starting and running friction. Lubricant lasts longer, efficiently retained by the turned-in lips of the outer shell.

Let our engineering staff assist you in the application of Needle Bearings for the improvement of your product.

THE TORRINGTON COMPANY

TORRINGTON, CONN. SOUTH BEND 21, IND.

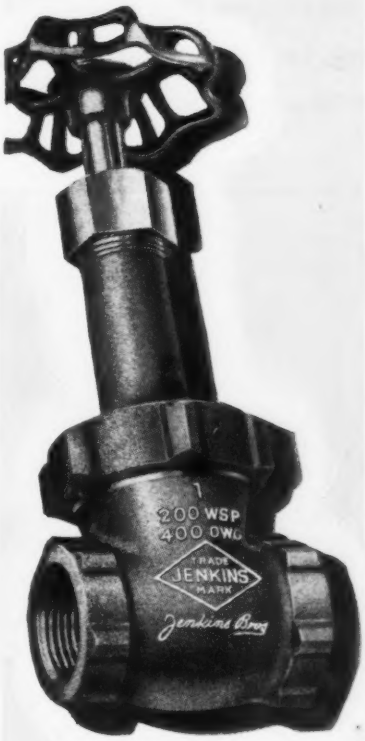
Offices in All Principal Cities

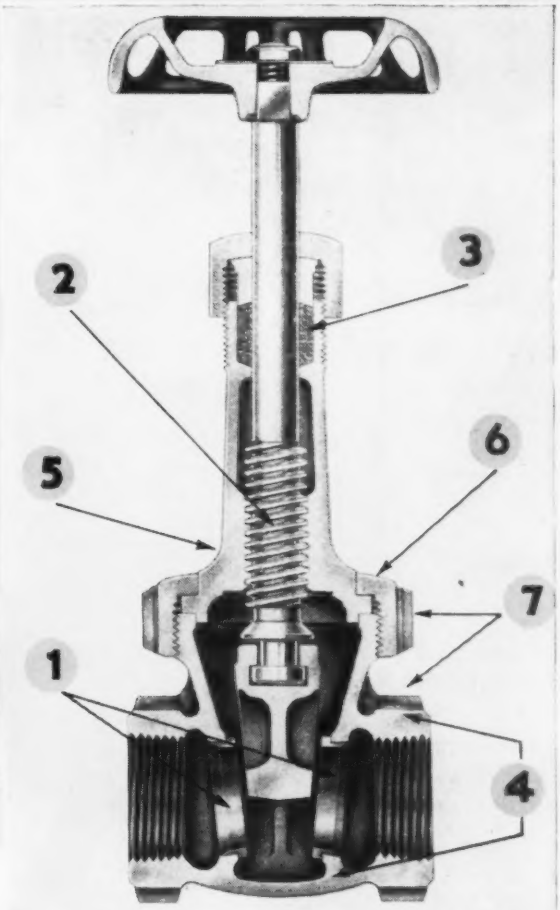
TORRINGTON BEARINGS

• NEEDLE • SPHERICAL ROLLER • STRAIGHT ROLLER • TAPERED ROLLER • BALL •

IT'S NEW . . . IT'S FAR AHEAD — IN DESIGN — IN DURABILITY

JENKINS FIG. 270-U BRONZE GATE VALVE





1. "MONEL" SEAT RINGS EXPANDED IN BODY The seat rings, expanded into place in the body, are equivalent to integral faces. The "MONEL" metal used is about 2½ times the hardness of valve body bronze — provides exceptional resistance to erosion and corrosion.

2. LARGE SPINDLE THREADS LAST LONGER The threads on the traveling spindle are exceptionally long and large in diameter, which reduces wear to a minimum and insures easy operation. Spindle metal is hard, tough manganese bronze.

3. DEEP STUFFING BOX — MORE PACKING Deeper than most 200 lb. gate valves, it holds more packing. Keeps stuffing box tight around spindle with less friction, and packing nut can be turned with less effort.

4. LIBERAL BODY DIMENSIONS ADD STRENGTH Made of 35,000 lb. tensile strength cast bronze — has full length of pipe threads and liberal clearance between threaded ends and diaphragm wall. Union assembly reinforces and strengthens body neck.

5. EXCEPTIONALLY RUGGED BONNET Projection on bottom assures snug fit into neck of body. Large diameter Acme threads, with long bearing, assure improved wear resistance. Machined bevel on underside matches beveled shoulder on spindle for back-seating under pressure and protecting spindle threads when valve is wide open.

6. HEAVY BONNET RING Union Bonnet joint withstands exceptionally high hydraulic pressures. Liberal thread engagement assures assembly that can be made tight and kept tight after repeated disassembly.

7. BODY AND BONNET RING LUGS Rugged sturdy lugs of novel design on body ends and bonnet ring permit repeated application of conventional wrenches.

AGAIN JENKINS PRACTICAL ENGINEERING SETS THE STANDARD FOR VALVE ECONOMY

• *IF ANY PART of the seating combination is to eventually need replacement, why not have it the most accessible part—the wedge rather than the seat? It's easier, quicker, cheaper to slip on a new wedge, than to install a new body!*

That's the principle on which Jenkins Engineers designed the new Fig. 270-U Bronze Gate Valve, with a high-quality bronze wedge seating against MONEL seat rings expanded in the body. With this sensible design, the wear affects only the most accessible part—the bronze wedge—which can be replaced by simply slipping it off the stem and slipping on a new one. Prolonged tests, in toughest service, prove it the best seating combination to beat wear, reduce care.

This new, better Fig. 270-U will give you unequalled economy in any service requiring a 200 lb. pressure Bronze Gate, and especially under severe conditions, such as in oil refineries, dye houses, chemical, food, and rubber plants.

Jenkins Bros., 80 White St., New York 13; Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago; San Francisco. Jenkins Bros., Ltd., Montreal.

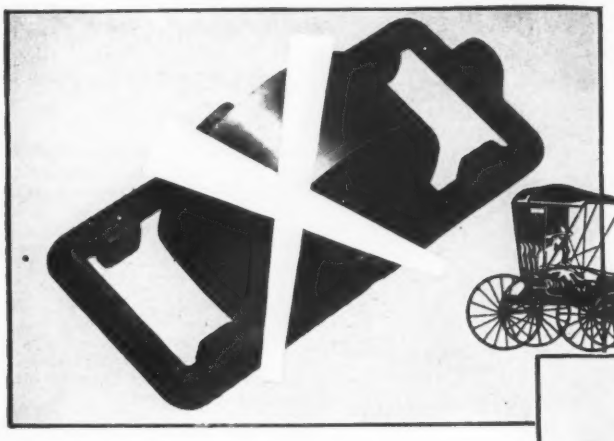
LOOK FOR THIS TRADE JENKINS MARK DIAMOND MARK
SINCE Jenkins Bros 1864

JENKINS VALVES

Types, Sizes, Pressures, Metals for Every Need

WRITE FOR THIS FOLDER (Form No. 181-A). It describes the Fig. 270-U and many other popular Jenkins Bronze Gate Valves. Or, ask your Jenkins Distributor.

IS YOUR TWISTER ROOM STILL IN THE HORSE & BUGGY STAGE?



. . . with old, wood-bearing, box-type, sliding, low-hung, lint and oil catching pulley assembly?

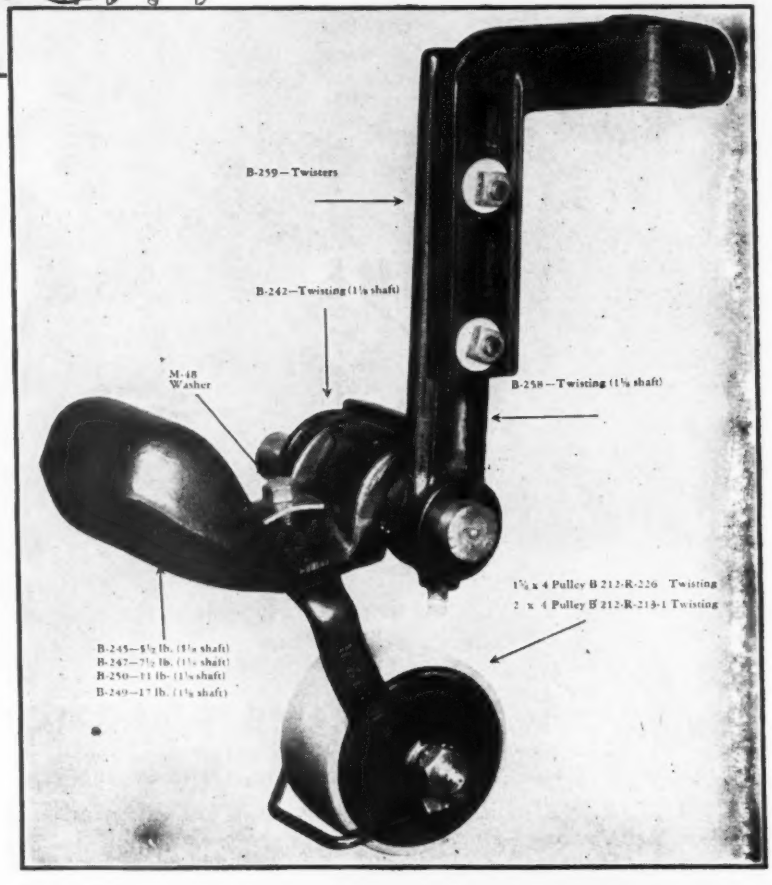
If so, we suggest that you replace these with Meadows Precision Heavy-Duty Ball Bearing Overhead Tension-Pulley assembly.

- **Overhead suspension minimizes oil-mist and humidity cleaning problem common with low-hung plain-bearing pulleys**
- **More uniform spindle speeds**
- **No stuck bearings**
- **Eliminate tape jump-off due to stuck or worn bearings**
- **Lubrication necessary only twice a year, or each 5000 hours**

Different pulley sizes, brackets and weights to handle any frame up to heaviest cable twisting.

Our representatives will check your frames with Stroboscope and tension scales and make proper recommendations.

Ample Stocks . . . Prompt Shipment
(*A repair and maintenance item*)



Representatives

JAMES P. COLEMAN,
P. O. Box 1351, Greenville, S. C.

WALTER S. COLEMAN,
P. O. Box 722, Salisbury, N. C.

MATTHEWS EQUIPMENT CO.,
93-A Broadway, Providence, R. I.

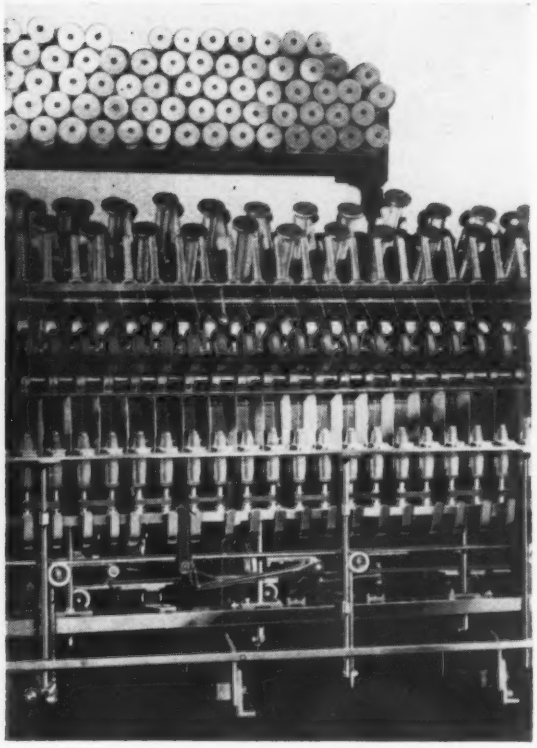
MEADOWS MANUFACTURING CO. · ATLANTA, GA.

. . . . Ball-Bearing Specialists to the Textile Industry . . . .

Westinghouse Fluorescent Lamps offer HIGH LIGHT OUTPUT to provide real SEE-ABILITY. Their low surface brightness minimizes direct glare. They provide excellent distribution of light, are cool burning, and duplicate most closely the color of OUTDOOR DAYLIGHT. To step-up production in your mill, plant or office, to reduce waste or spoilage, to help improve quality or product, to promote safety—it's to your advantage to provide good lighting—the kind synonymous with Westinghouse. Yes—for fluorescent lighting at its best, specify Westinghouse—the name you know in lamps!

Lamp Division, Westinghouse Electric Corp., Bloomfield, N. J.

Westinghouse lamps
FOR SEE-ABILITY



'magnum' & 'parawind'

MODELS

LARGE PACKAGE RING SPINNING

for Worsted Yarns

INCREASED EFFICIENCY
FEWER OPERATIVES
REDUCED COSTS

We shall be pleased to advise you on the suitability of these machines for spinning your yarns. Write for full details.

Agents, U. S. A. and Canada—English system machinery. Atkinson, Haserick & Co., 211 Congress St., Boston 10, Mass. Agents, U.S.A.-French system machinery, The Blake Electrical Mfg. Co., 178 Atlantic Ave., Boston 10, Mass.

PSS/8

PSS & LTD

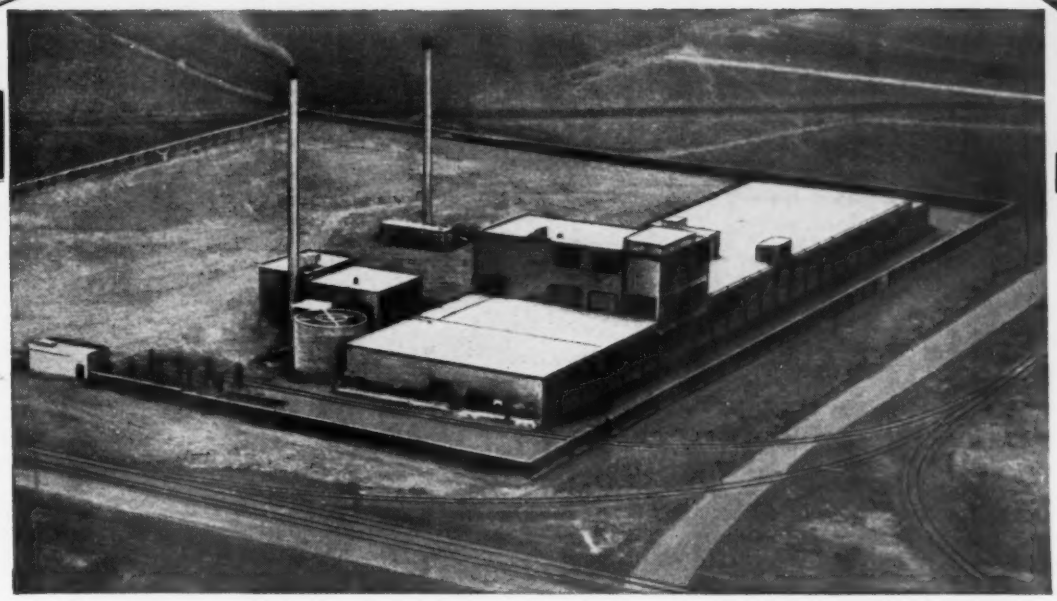
Prince-Smith & Stells Ltd.

INCORPORATING TAYLOR WORDSWORTH & Co LTD

CONCESSIONAIRES FOR ALL WORSTED MACHINERY MANUFACTURED BY PLATT BROTHERS & CO. LTD. ASA LEES & CO. LTD.

KEIGHLEY
ENGLAND

KOHORN



Rayon Yarn • Staple Fiber • Cellophane Plants

—Built and Producing in 18 months

This is the type of viscose rayon yarn and staple fiber plant which Oscar Kohorn & Co., Ltd. is now contracting to design, construct and put in operation in 18 months. Some of these plants rank with the world's largest. In others initial capacity is small with a consequent conserving of capital. Provisions are made when desired for doubling or even quadrupling the output of a small plant at a later date without stopping the original unit's production.

This speed and efficiency of construction is one of the results of Kohorn's 35 years' experience in building rayon plants and machinery. A firm price for all machinery and guaranteed production under our expert technical management are among the unusual safeguards gained by contracting with Kohorn. Consult us now without obligation.

Pioneers of the Rayon Industry

OSCAR KOHORN & CO., LTD.

EXECUTIVE OFFICES

501 FIFTH AVENUE NEW YORK 17, N. Y., U. S. A.

BRITISH
Textile
MACHINERY
LAP REGULARITY MAKES GOOD YARN

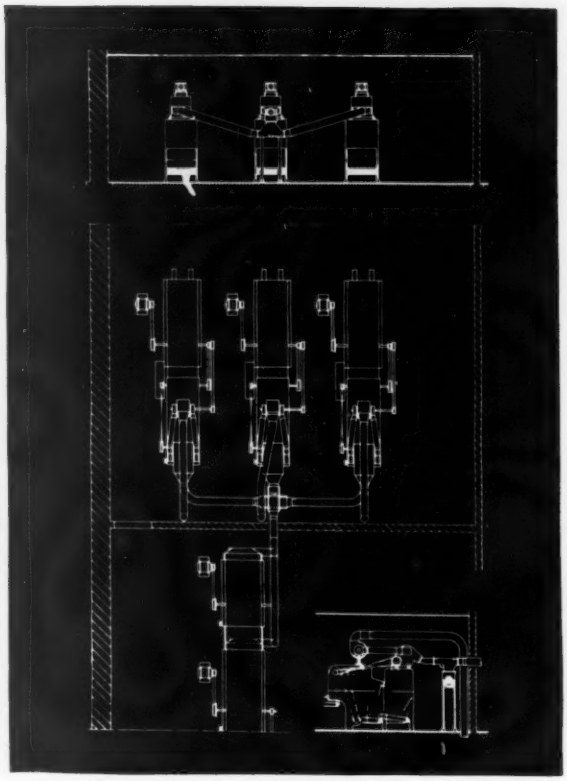
ELECTRO PNEUMATIC DISTRIBUTION

The modern system of electrically controlled pneumatic distribution of cotton to lap-forming machines has definite advantages over the older systems.

1. Less obstruction of light in the blowing room.
2. Automatic distributors can be easily arranged to feed scutchers far apart from each other or scutchers located in unusual positions relative to each other.

   For example: when scutchers are arranged in tandem or on opposite sides of a dividing wall. Two and three way chutes for such positions are difficult and in some cases, impossible to arrange.
3. The modern system can be used without difficulty in low ceilinged rooms impracticable for chutes.

The electro pneumatic distributor is simple and certain in action, requires little or no daily attention and since the electrical parts are completely enclosed, risk of fire is eliminated.



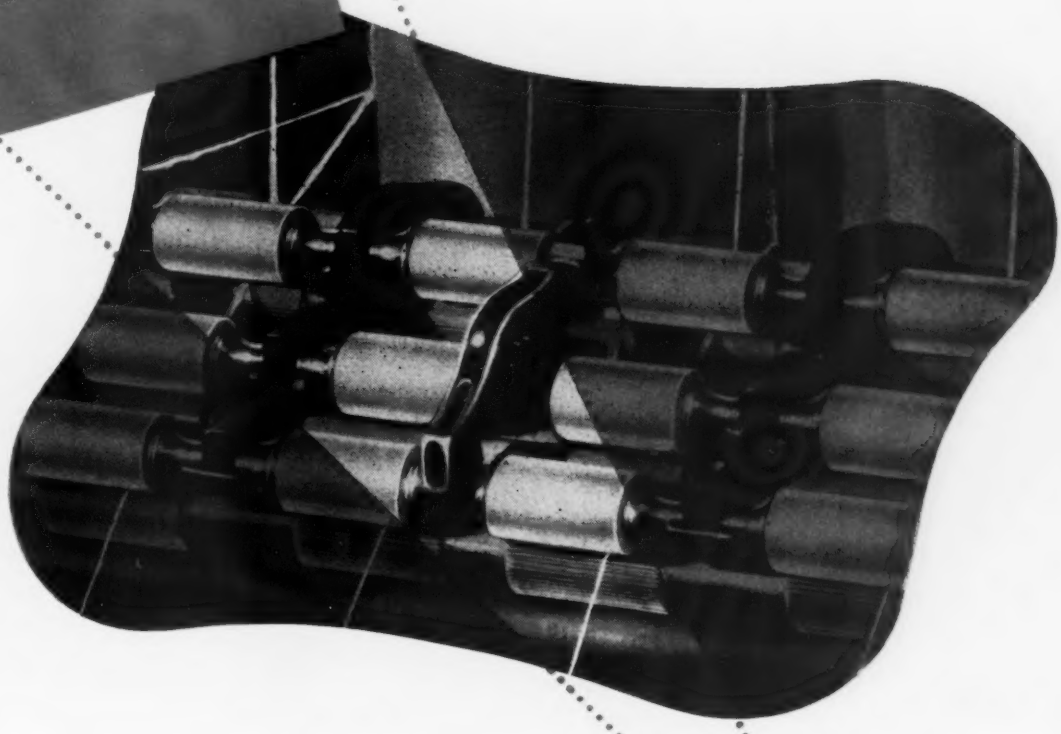
Showing distribution by electro-pneumatic means from one line of preliminary opening machines to three combined No. 2 hopper feeders and finisher scutchers.

The full range of Platt's blowing room machinery is described in a booklet recently published, entitled "Single Process Lapping." Write for a copy now.

Platt Bros (Sales) Limited
OLDHAM ENGLAND

CS/3

Daycos never groove, hollow out, flatten or distort



Dayco roll coverings are especially engineered with an extremely durable surface, perfect cushion and exactly the right coefficient of friction. That's why they won't groove, hollow out, flatten or distort, no matter how long they run . . . why they outlive all other type roll coverings.

Whether you use flat or revolving clearers, whether you draft cotton or synthetics, Dayco roll coverings will produce better quality yarn, more economically. A Dayton textile product engineer will gladly prove this to you. He'll call at your convenience. Write today, to . . .

TEXTILE PRODUCTS DIVISION • DAYTON RUBBER
Main Sales Office: Woodside Bldg., Greenville, S. C.
Factory: Waynesville, N. C.

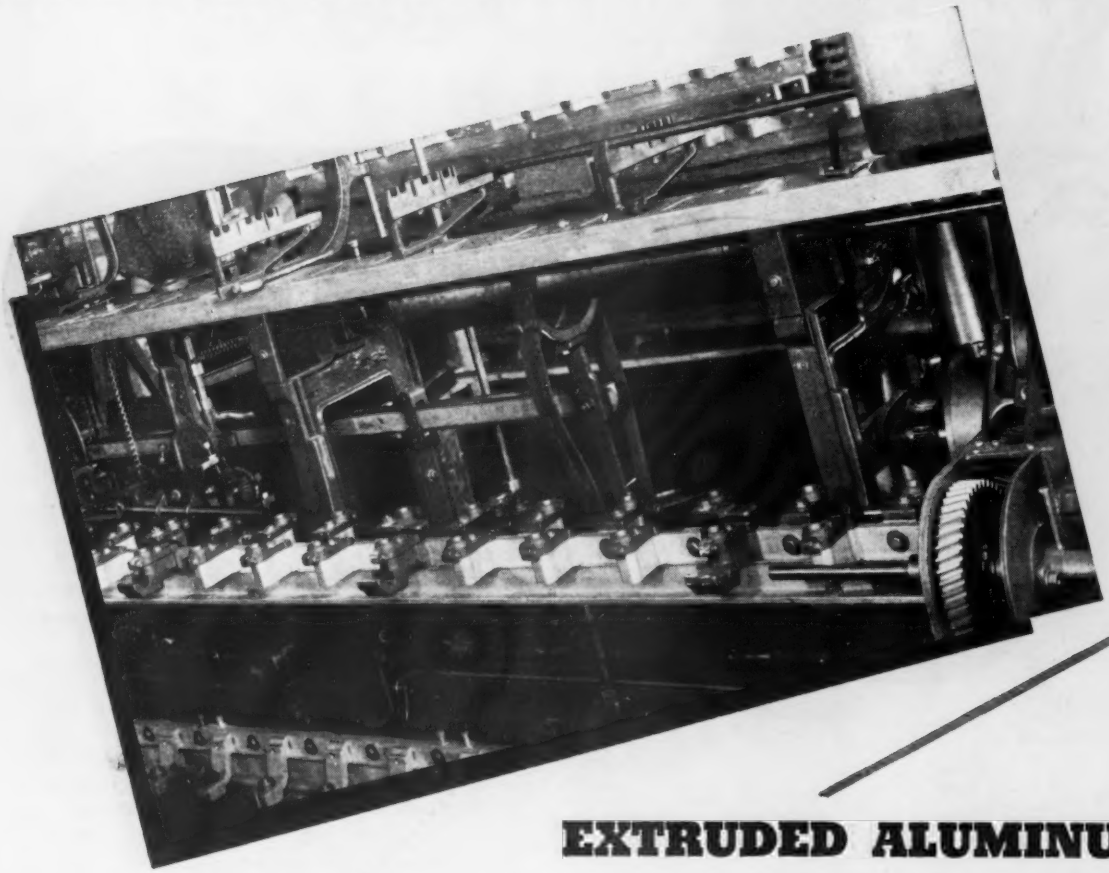
ADDITIONAL REASONS WHY YOU SHOULD USE DAYCO COVERINGS

- Large reduction of ends down
- More of the foreign elements are removed from yarn
- Specially compounded for uniform wear, lengthening service life
- Same trouble-free service, for special types of synthetic and synthetic blends of yarn
- Not affected by humidity or temperature changes
- Oil resisting and static-free
- No grooving—less ends down
- Easy to apply

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

THE ACHIEVEMENT OF QUALITY



EXTRUDED ALUMINUM

After exhaustive research the H & B engineering department, working in close cooperation with metallurgical engineers of the Reynolds Metals Company, has successfully replaced cast iron with extruded aluminum on Spinning Frames, Roving Frames and Twisters wherever such replacement was advantageous.

Now, we offer you textile machinery with superior and more costly extruded aluminum replacing 3 times heavier cast iron. Because aluminum absorbs vibration the reduction in weight has not impaired the smooth performance of H & B machinery. The new extruded aluminum parts have been designed to provide maximum structural strength using a minimum amount of metal. This effects further weight saving.

Aluminum reduces the weight of movable parts such as ring rails and bobbin rails. This, with corresponding reduction in weight of counterbalances, means less load on the builder motions. Mills benefit directly as much as 10-15% reduction in shipping costs due to the decreased weight of the extruded aluminum parts.

Another advantage of extruded aluminum is its good appearance. Rust free, non-corrosive aluminum invites the small amount of attention necessary to keep your machinery spotlessly clean. Maintenance costs are less, too. Extruded aluminum is not brittle and does not break as cast iron often does when carelessly handled.

To summarize: A new metal, superior in the job it does, has been successfully adapted for textile machinery, and the benefits of this progress that is part of the achievement of quality at H & B are immediately passed along to you.

H & B AMERICAN

Builders of Modern

FACTORY, EXECUTIVE OFFICES AND EXPORT

AT H&B

EXTRUDED ALUMINUM PARTS

SPINNING FRAME

Roller beams
Ring rails
Spindle rails

ROVING FRAME

Roller beams
Bobbin rails
Snug rails
Snugs
Octagon rolls
Casing-off plates (Sheet aluminum)

TWISTER

Roller beams
Ring rails
Spindle rails

MACHINE CO.

Textile Machinery

DIVISION, PAWTUCKET, RHODE ISLAND, U.S.A.

BRANCH OFFICES

ATLANTA, GA.
815 CITIZENS AND SOUTHERN NATIONAL BANK BUILDING

CHARLOTTE, N. C.
1201 JOHNSTON BUILDING

FAIRBANKS-MORSE

A time-honored name in scales

★ ★ ★ ★ ★

Long years of manufacturing experience—of lastingly accurate weighing service—that is the background you will find in scales bearing the Fairbanks-Morse name.

The services they perform, the time and money they save, have given them an envied reputation for dependable quality.

Skilled workmanship, quality materials, and unending research have combined to make this possible . . . will continue to give Fairbanks-Morse Scales a proud position of leadership in every field of industry.

Fairbanks, Morse & Co., Chicago 5, Illinois.

Fairbanks-Morse

A name worth remembering

Diesel Locomotives
Diesel Engines
Generators • Motors
Pumps • Scales
Magnetos • Stokers
Railroad Motor Cars
and Standpipes
Farm Equipment

A SINGLE MACHINE or an ENTIRE PLANT!

Van Vlaanderen engineers are prepared to help you design a complete dyeing and finishing plant—or will help you select a single machine to meet a special need.

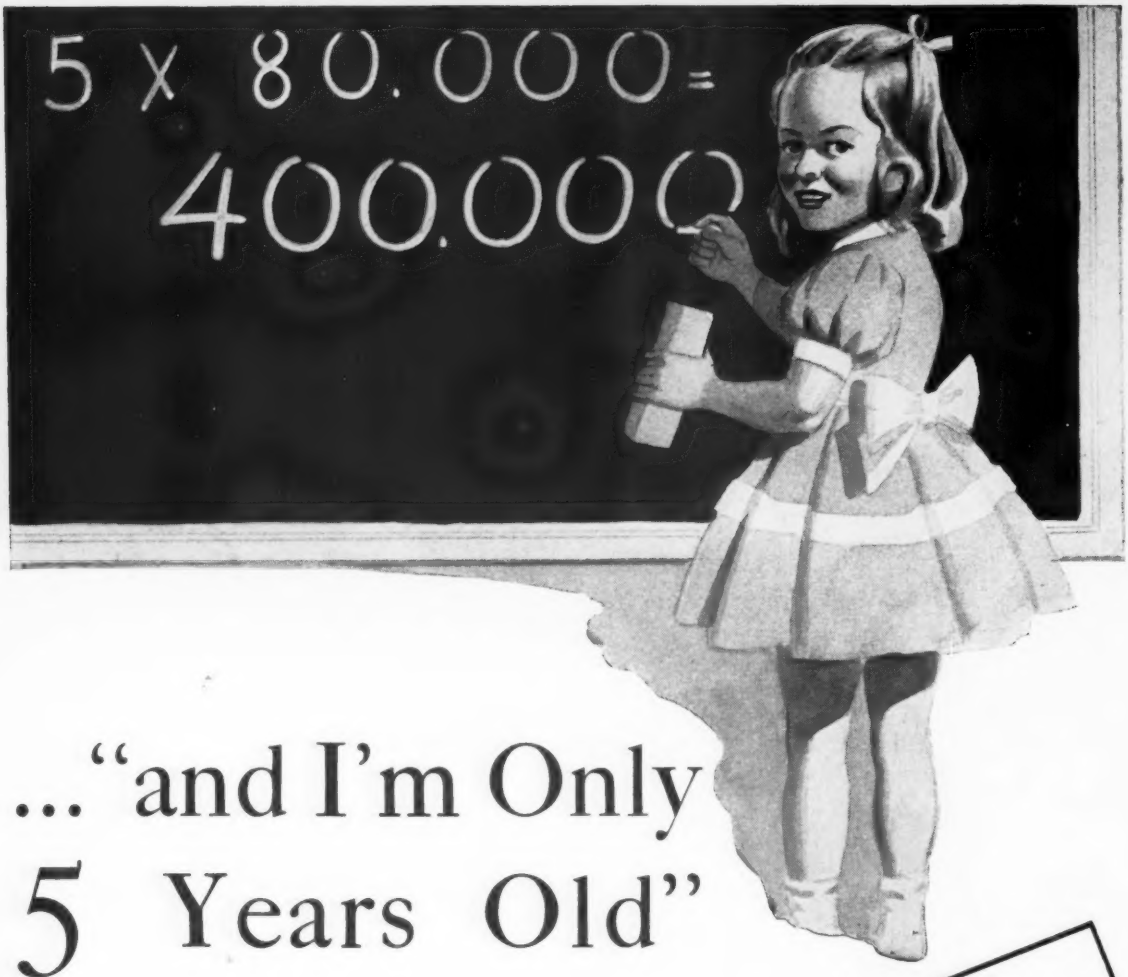
The Van Vlaanderen equipment you buy now will be better too—giving greater production and higher quality in processing modern fabrics.

Discuss your requirements with us.

VAN VLAANDEREN MACHINE COMPANY

370 Straight St., Paterson 3, N. J.

Cable address: Vlaanderen, Patersonnj, U.S.A.



..."and I'm Only 5 Years Old"

Pretty big sum for a five-year old!

Pretty big achievement, too, for the five years since the first RCK Finish Flyers were tested by discerning mill owners.

Today, we treasure the enthusiastic approval of big mills, little mills, new mills, old mills . . . over 400,000 RCK Treated Flyers now in use. The beautiful, glossy, black, rust-resistant finish of these flyers is unsurpassed for use in White Goods Mills, reducing eye strain and employee fatigue.

The qualities that have earned RCK *first place* will continue.

Pride of workmanship, practical planning, and high standard materials will combine and increase to keep RCK Finish Flyers the Leader in the Field—from Maine to California.

We furnish Spindles and Flyers while yours are being Repaired

IDEAL MACHINE SHOPS, INC.

BESSEMER CITY, NORTH CAROLINA

23RD YEAR OF CONTINUOUS SERVICE TO TEXTILE MILLS

SINGLE CABLE CHAIN DOES NOT OBSTRUCT VISION
ROLLER MOUNTED FREE-RUNNING, GREASELESS HOIST FRAMES
LEAK-PROOF DISPLACEMENT TYPE HOIST CYLINDER
MAXIMUM DRIVING VISIBILITY
TRUNNION STEERING— CONVENTIONAL CONTROLS HYDRAULIC BRAKES
HYSTER
ENGINE ACCESSORIES LOCATED FOR MOST CONVENIENT SERVICE
DUAL SPARK ARRESTING MUFFLERS
STEEL SHIELD— ONE PIECE WELDED BODY
HYSTER
SPEEDS UP TO 12 MILES PER HOUR IN EITHER DIRECTION
HYSTER'S 2000 POUND INDUSTRIAL LIFT TRUCK ON PNEUMATIC TIRES

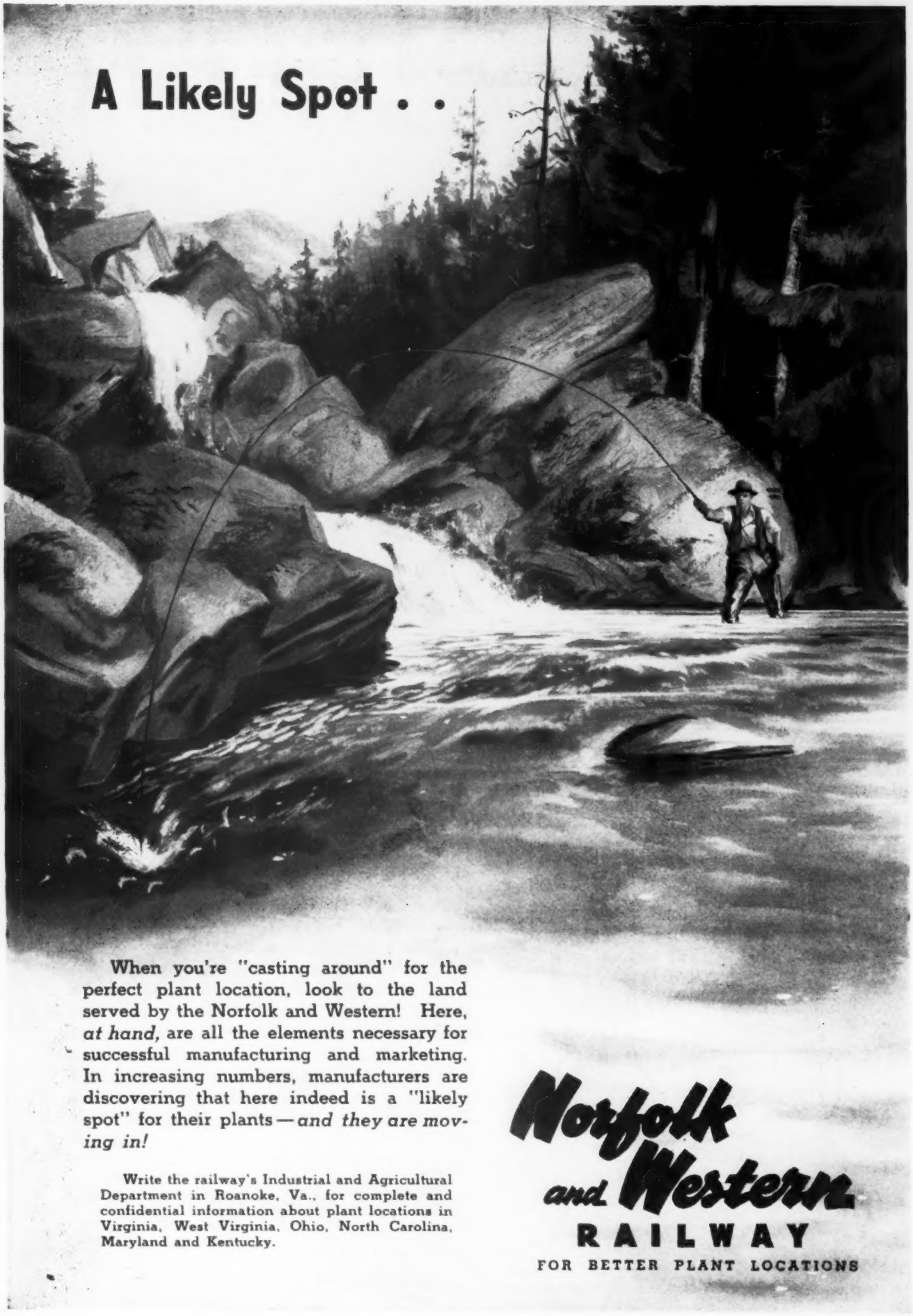
HIGH SPEED PERFORMANCE
in the Textile Field
WITH A HYSTER "20"

For speed and maneuverability the 2000-lb. capacity Hyster "20" is made to order for materials handling work in the textile industry.

Hyster "20" has pneumatic tires. It is equally efficient on rough or smooth surfaces, indoors or outdoors — with speeds up to 12 m.p.h. in either direction. The "20" is highly maneuverable, only 36 in. wide with rounded rear end for easy turning in tight spots and crowded places . . . Heights of lift available from 6 ft. to 12 ft. Call your Hyster distributor; write for Catalog 1055.

HYSTER COMPANY

2922 N. E. Clackamas St., Portland, Oregon
1822 North Adams Street, Peoria, Illinois
1022 Meyers Street, Danville, Illinois

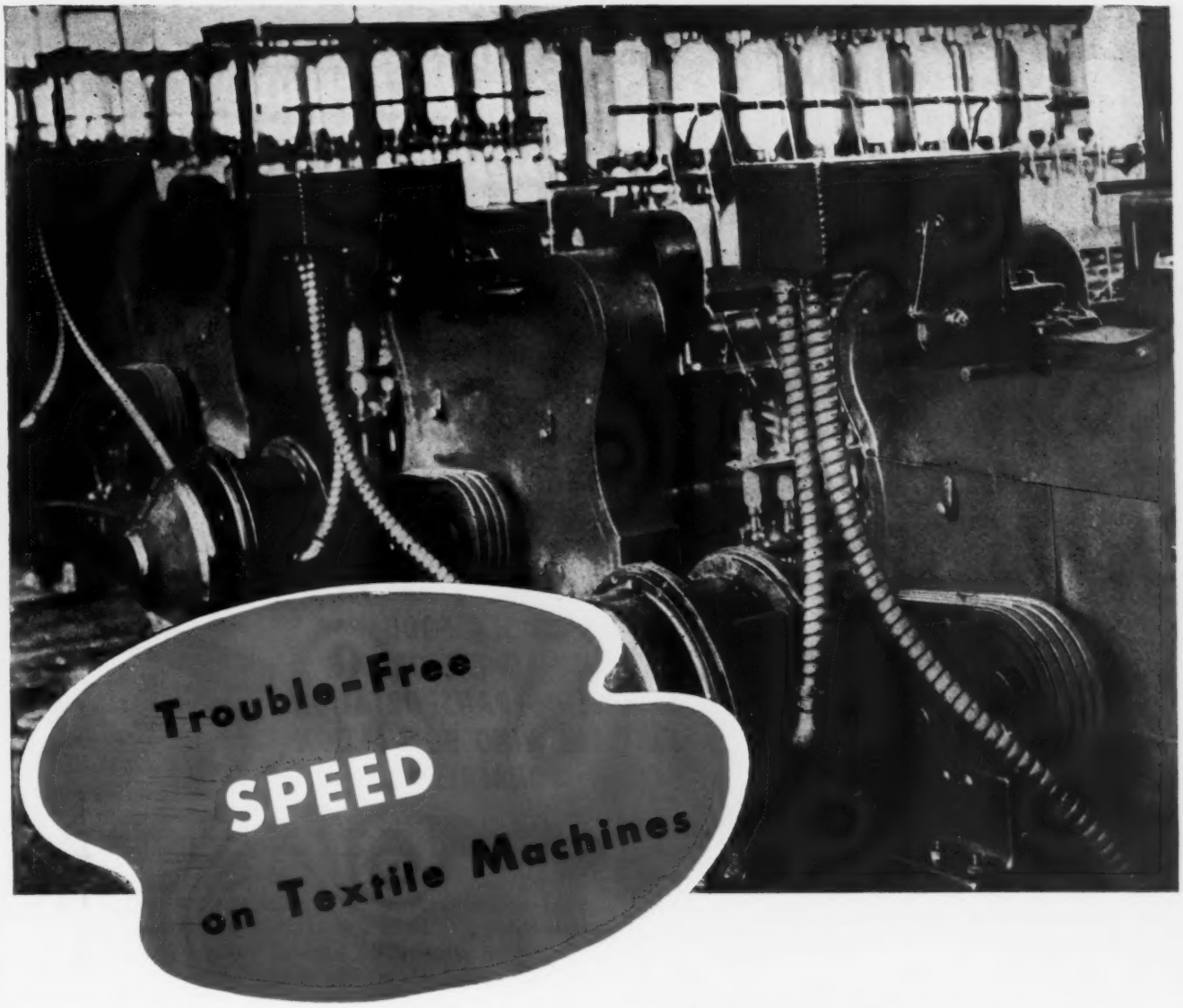


When you're "casting around" for the perfect plant location, look to the land served by the Norfolk and Western! Here, *at hand,* are all the elements necessary for successful manufacturing and marketing. In increasing numbers, manufacturers are discovering that here indeed is a "likely spot" for their plants—*and they are moving in!*

Write the railway's Industrial and Agricultural Department in Roanoke, Va., for complete and confidential information about plant locations in Virginia, West Virginia, Ohio, North Carolina, Maryland and Kentucky.

Norfolk and Western RAILWAY

FOR BETTER PLANT LOCATIONS



. . . with *Condor* Whipcord V-Belts

Manufacturers of all types of machinery are relying on Manhattan's method of engineering V-belts to meet their requirements for original equipment.

Condor Whipcord V-Belts embody 8 Points of Balance. Their principal advantage lies in the endless-wound Strength Member of strong, pre-stretched Whipcords that ride in a cushion of slow-aging, heat-dissipating Flexlastics. The performance of this construction is satisfactory under all conditions. Condor Whipcord V-Belts have a wide margin of tensile strength and resistance to distortion and wear.

V-Belt Bulletin 6868-B gives more details of this long-wearing construction and includes helpful tables. Ask for your copy.

Manhattan's line of rubber products for the Textile Industry is consistently dependable—outstanding in quality. Make MANHATTAN your choice.

("Flexlastics" is exclusive with Manhattan)

RAYBESTOS R M MANHATTAN

RAYBESTOS-MANHATTAN INC.

Keep Ahead with Manhattan

MANHATTAN RUBBER DIVISION **PASSAIC, NEW JERSEY**

UNION PACIFIC

TREASURE MAP OF INDUSTRY

Washington *

TREMENDOUS WATER POWER
LOW ELECTRIC RATES
LEADER IN LUMBER
BASIC METALS AND ORES
LARGE AGRICULTURAL YIELD
SOURCE OF SEA FOOD
GATEWAY TO THE ORIENT
EXCELLENT TRANSPORTATION
FAST GROWING POPULATION
SCENIC WONDERLAND

* *One of a series of advertisements based on industrial opportunities in the states served by the Union Pacific Railroad.*

WATER POWER is one of Washington's most important industrial advantages. Two of the world's greatest dams, Grand Coulee and Bonneville, make it possible to offer industry unusually low electric power rates.

Lumber, coal, iron, nickel, chrome, aluminum —and other basic metals—are available "on the ground floor" for industrial purposes.

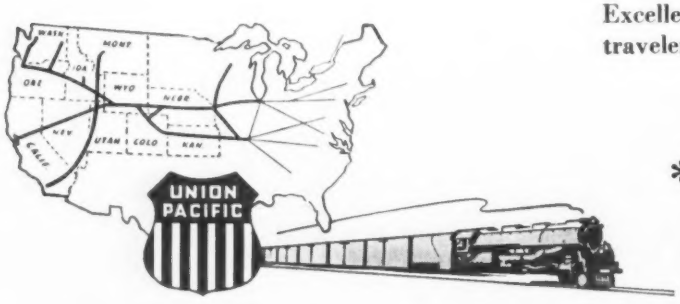
The state's tremendous yield of fruits and vegetables, together with seafood, offers an immediate supply to concerns engaged in processing and packing.

Washington's population has shown a great growth; providing a large local consumer market and source of industrial workers.

The state also is a gateway to the Orient for export business.

From a viewpoint of good living, the Evergreen State offers a year 'round scenic playground . . . excellent educational and cultural advantages.

Excellent rail transportation, for shippers and travelers, is provided by Union Pacific.



* *Address Industrial Department, Union Pacific Railroad, Omaha 2, Nebraska, for information regarding industrial sites.*

UNION PACIFIC RAILROAD

THE STRATEGIC MIDDLE ROUTE

A NEW PICKER STICK THAT Lasts 15 Times as Long AS HICKORY!

Cap. 1: This is the actual photo of a Plyweld Picker Stick which made 32,000,000 picks in eleven months before it failed. The other twenty-four sticks in the same installation were still going strong.

PLYWELD Picker Sticks as manufactured and distributed exclusively by the E. H. Jacobs Manufacturing Co., Inc., are one post-war dream for textile factory maintenance men which has come true. Users of this stick report that it lasts from 15 to 20 times as long as hickory—avoiding shut downs and saving labor that really counts for something.

These sticks, cut from Formica "Pregwood" sheets, are much harder and more abrasion and wear-resistant than hickory. They will break before the casting in case of a jam. There are fewer cloth smashes and delay—less loom fixing. They are uniform in give and elasticity. No warping because of moisture absorption. Lug straps, sweep sticks and power sticks, straps and other attachments last longer because of better boxing of the loom and less "slamming off".

Manufactured by

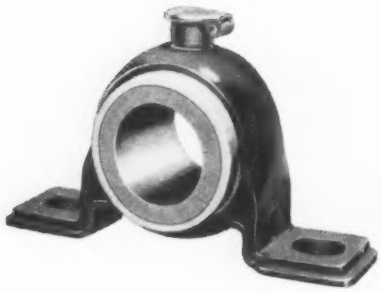
The E. H. Jacobs Mfg. Co., Inc.

Danielson, Conn. Charlotte, N. C.

FORMICA

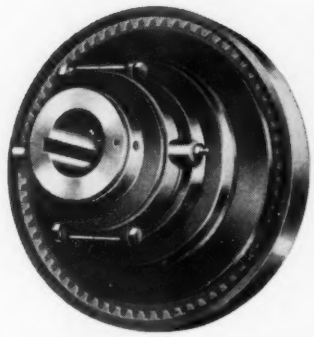
TRADE MARK REG. U.S. PAT. OFF.

THE FORMICA INSULATION CO., 4668 SPRING GROVE AVE., CINCINNATI 32, OHIO



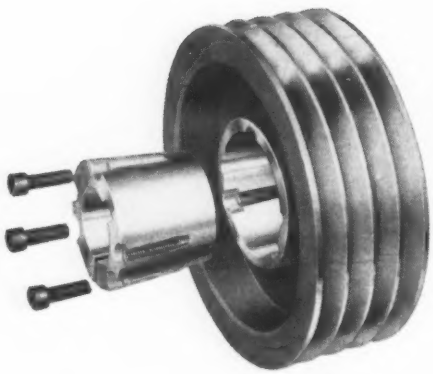
This is the BRONZOIL Bearing. Developed by Dodge for fan and blower service. A new and better transmission appliance.

U. S. Patent No. 1,931,055



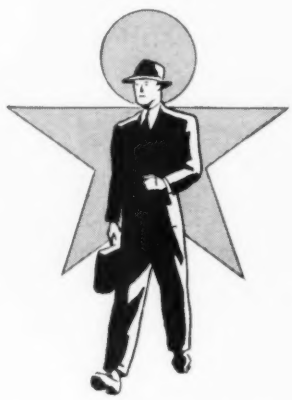
This is the ROLLING GRIP Clutch. Developed by Dodge. No toggles. A new and better transmission appliance.

U. S. Patent No. 2,397,414



This is the TAPER-LOCK Sheave. Developed by Dodge. No flange. No collar. A new and better transmission appliance.

U. S. Patent No. 2,402,743



This is the Dodge Transmissioneer – who will tell you about new ways of transmitting power mechanically.

DODGE

of Mishawaka, Ind.

New equipment which helps cut costs, improve machine performance, increase production is offered to you by Dodge of Mishawaka. For detailed information about power transmission units to meet specific needs in your plant, or on your product, call the Transmissioneer, your local Dodge distributor. Look for his name in the classified telephone directory under "Power Transmission Equipment." A talk with him will prove profitable to you.

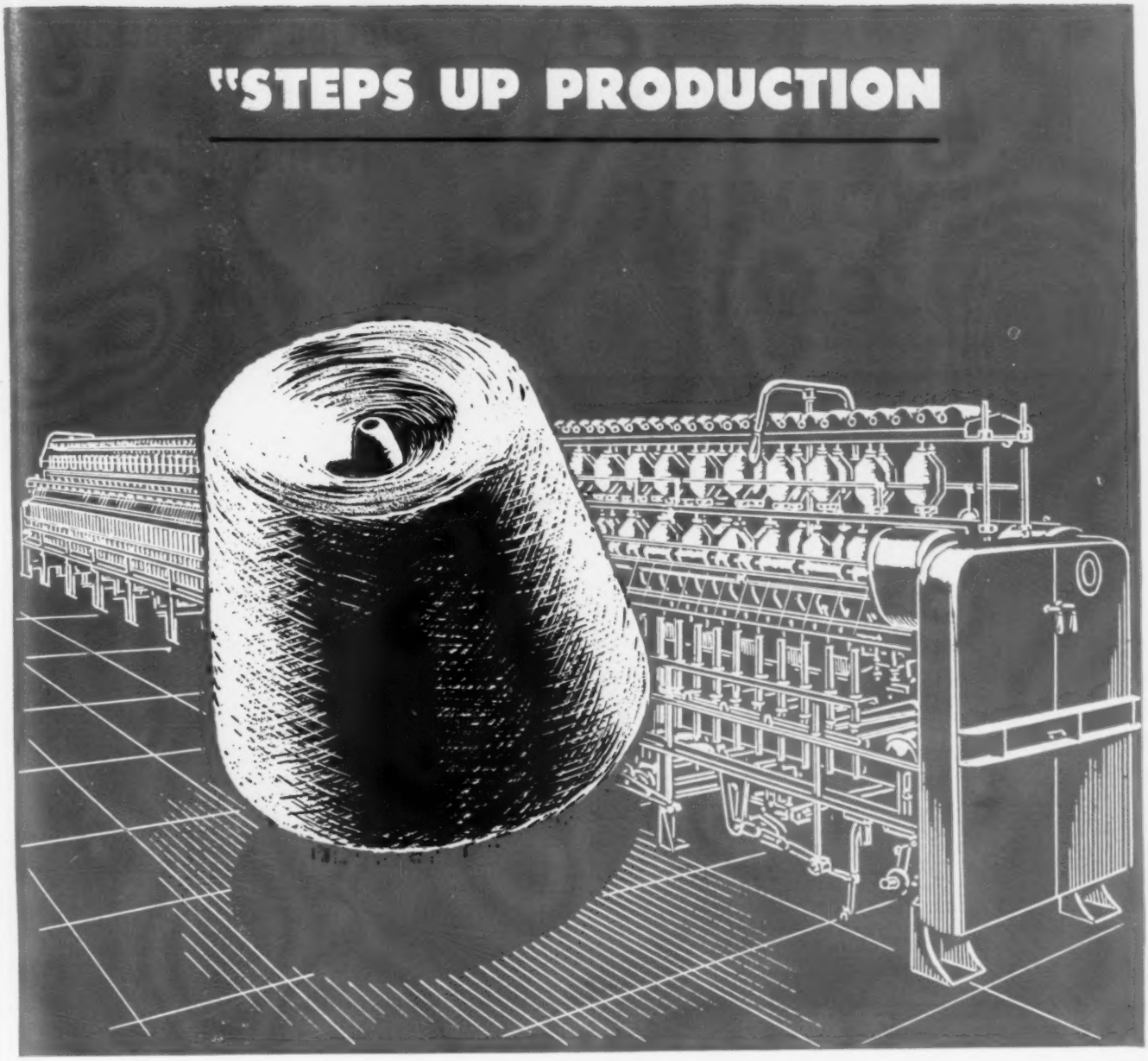
DODGE MANUFACTURING CORP., MISHAWAKA, IND.

Copyright, 1947, Dodge Mfg. Corp.

NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

"STEPS UP PRODUCTION



. . . with Tycol spindle oil"

TYCOL
INDUSTRIAL LUBRICANTS

**Boston • Charlotte, N. C.
Chicago • Detroit
Pittsburgh • Philadelphia
Tulsa**

TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE - NEW YORK 4, N. Y.

"Not a single tube lost . . .

Reduces spindle drag . . .

Reduces bolster losses . . .

Reduced drag . . .

Cuts down maintenance costs . . ."

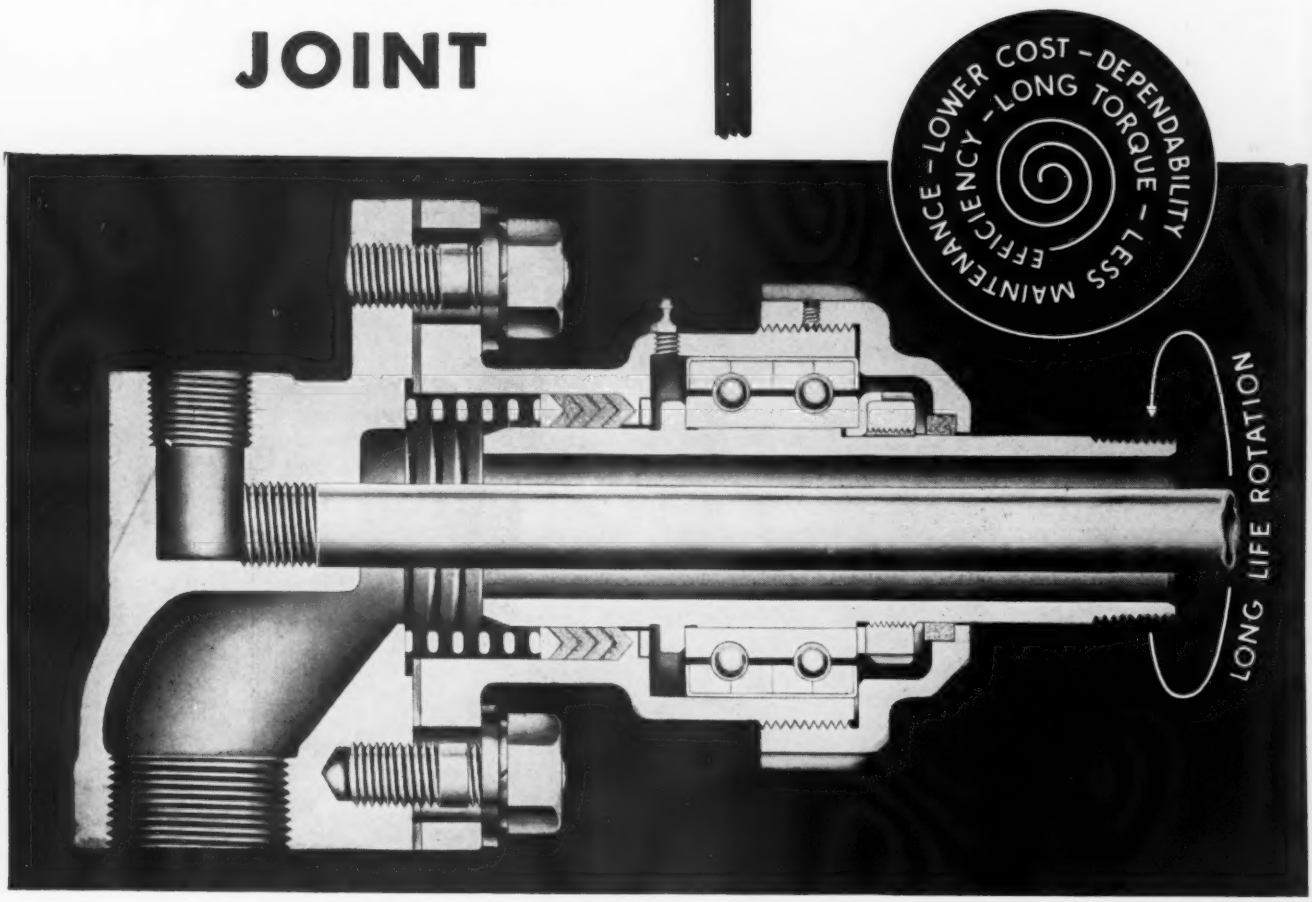
—says a textile mill operator. "With Tycol Spindle Oil," he goes on, "we're able to operate continuously at top speed—and we don't have to worry about the oil losing its body at operating temperatures."

For further information about Tycol Textile Oils, get in touch with your nearest Tide Water Associated Office today.

LUBRICATION—"ENGINEERED TO FIT THE JOB"

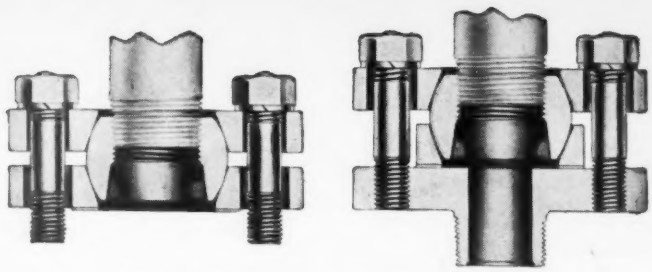
BARCO REVOLVING JOINT

Designed Especially for the Textile Industry



This Barco Joint is made for all types of rotating applications such as slashers, calenders, sanforizers, and dry cans. In textile weaving and finishing plants, and bleacheries, Barco minimizes steam leaks, and reduces power costs because of its lower turning torque.

For further particulars about this and other Barco Flexible Joints provided for the textile industry, write us concerning your needs and problems. The Barco Manufacturing Company, Not Inc., 1834 Winnemac Avenue, Chicago 40, Illinois.



BARCO BALL FLANGE—Cross-section view of Barco Ball Flange for use on threaded and flanged rolls and for correcting roll misalignment. Sleeve can rotate concentric even though threads on roll are tapped off center.

BARCO FLEXIBLE JOINTS

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY

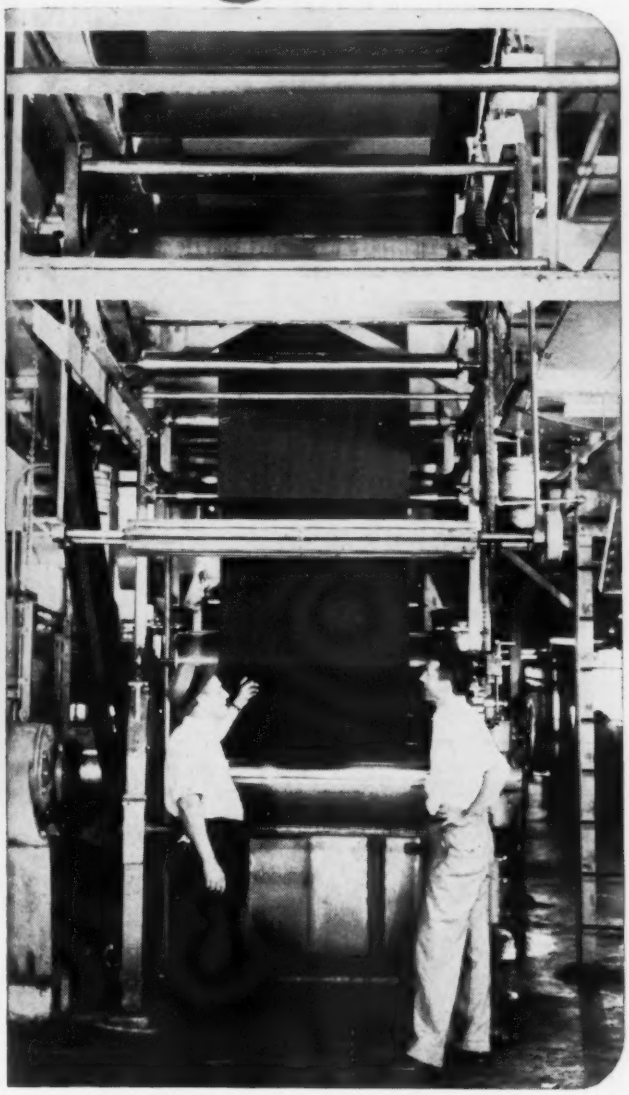
Not just a swivel joint ...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.

In Canada: The Holden Co., Ltd., Montreal, Canada.

"MOVE IN EVERY DIRECTION"

REPUBLIC *Enduro* STAINLESS STEEL

Improves Employee Relations



ENDURO Stainless Steel plays a very important part in the operation of this continuous dyeing line—just as it does throughout the textile industry in dye vats, racks, sticks, rollers, drying cans, bleaching equipment, extractors, kettles, dye beams, saturators, hosiery forms and countless other applications.

Easy to look at . . . easy to work with . . . Republic ENDURO Stainless Steel equipment pays immediate dividends in improved employee relations.

Lustrous ENDURO offers a constant invitation to complete cleanliness. It is so easy to clean—with a minimum of time and effort—that everyone takes pride in keeping it spotless. Thus, ENDURO helps create a bright, cheerful working atmosphere . . . makes work easier . . . gives employees new incentive.

ENDURO'S hard, smooth finish is *safe* for the most delicate colors and fabrics, too. It is as inert to dyeing solutions as porcelain . . . holds colors true to shade . . . and, its smooth, pore-free surface can't carry over contaminating colors from one batch to another. ENDURO doesn't crack, peel or chip —never snags sheer fabrics. Solid stainless steel all the way through, and highly resistant to rust and corrosion, it lasts indefinitely.

Talk with your equipment manufacturer NOW about putting Republic ENDURO Stainless Steel to work for you, helping to promote better employee relations.

REPUBLIC STEEL CORPORATION
Alloy Steel Division • Massillon, Ohio
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, New York

Complete, up-to-the-minute information about the applications of ENDURO Stainless Steel is included in Republic's new, colorful 20-page booklet. Write for your free copy. Ask for Booklet Number 444.

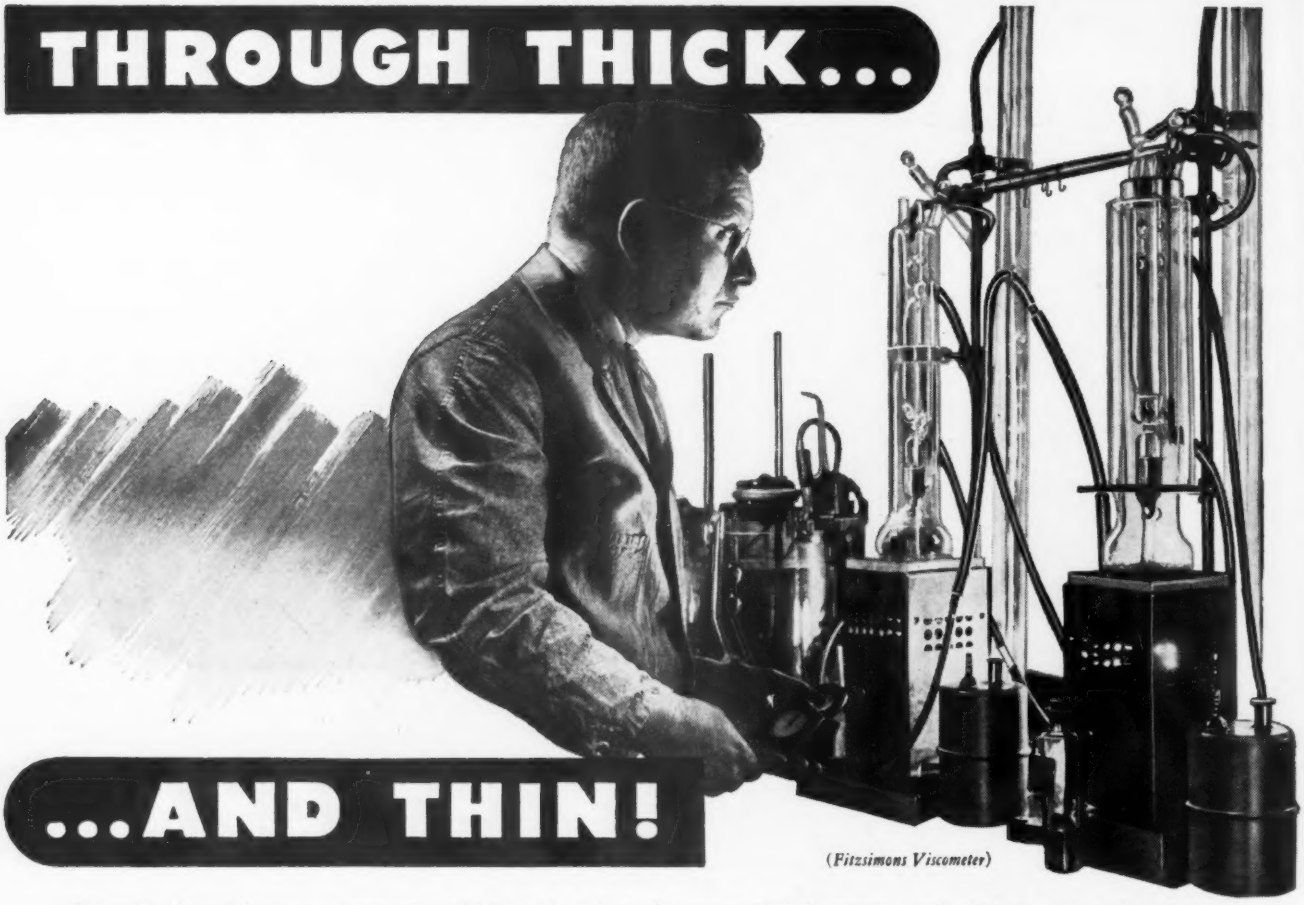
Republic REPUBLIC STEEL

ENDURO STAINLESS STEEL

Reg. U. S. Pat. Off.

Other Republic Products include Carbon and Alloy Steels—Pipe, Sheets, Strip, Plates, Bars, Wire, Pig Iron, Bolts and Nuts, Tubing

THROUGH THICK...



...AND THIN!

(*Fitzsimons Viscometer*)

Horatio Alger heroes never struggled harder than do research laboratory technicians today. The intent scientist above is a Sinclair Research technician . . . a skilled specialist at determining how thick or how thin Sinclair lubricating oils must be for specific applications.

With the important Fitzsimons Viscometer, a research measuring apparatus of fine precision, Sinclair Laboratory experts are able to determine with extreme accuracy viscosity characteristics in their studies of lubricants needed to protect your valuable machinery. Precise, accurate flow measurement provides information important in the development of improved products for correct lubrication with light-bodied oils for today's precision-built engines and machinery.

This viscometer is one of several different types with which Sinclair Research goes through thick and thin to assure you of industrial lubricants of proper viscosity. It is typical of the equipment and facilities which are constantly at your service in developing Sinclair lubricants of uniformly high quality to suit your specific application.

Sinclair Textile Oils

LILY WHITE OILS

In grades to suit all spindle speeds, loads and operating conditions

Light color, long life

SINCLAIR REFINING COMPANY • 630 FIFTH AVENUE, NEW YORK 20, N. Y.

SINCLAIR

Lubricants for Industry

FINEST CRUDES + EXPERT RESEARCH and MANUFACTURING CONTROL = OUTSTANDING PERFORMANCE

..that quality look, feel and wear your knit goods customers insist upon—knits easier, faster, too

Standard Durene, the extra quality combed mercerized yarn, knits an unusually soft, full-bodied fabric with a beautiful luster and a desirable elasticity . . . meets your trade's most exacting requirements for comfort, beauty and long wear. And because it runs easier, faster, is more economical, Standard Durene will meet your production man's requirements, too.

Standard Durene is the favorite of nationally known knit goods manufacturers who prize their reputation for quality. Over seventy years' experience, supplemented by our constant research, goes into the manufacture of Standard Durene. It is carefully processed in our own plants under our complete control from selected quality cotton to the finished yarn. Specify Standard Durene and be sure of that quality look.

STANDARD DURENE • THREADS
MERCERIZED COMBED SAKS • SELO

STANDARD - COOSA - THATCHER CO.
CHATTANOOGA 1, TENN.

SALES OFFICE:
123 SOUTH BROAD STREET, PHILADELPHIA 9, PA.

BRANCH OFFICES:

New York 16, N. Y.
185 Madison Ave.

Chicago 54, Ill.
940 Merchandise Mart

Greensboro, N. C.
Guilford Building

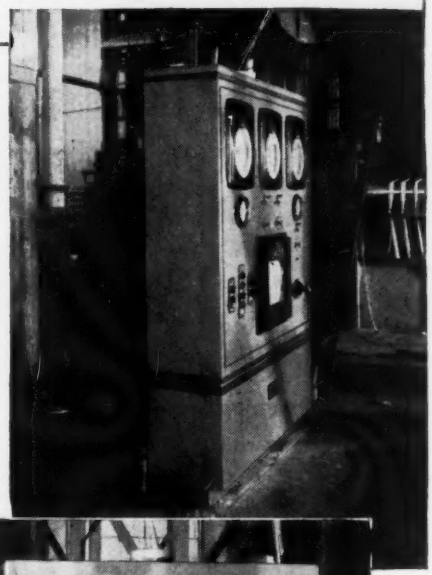
Reading, Pa.
Fifth & Walnut Sts.

Utica, N. Y.
P. O. Box 105

Representatives in Central and South American Countries

Getting Maximum Results from Continuous Peroxide Bleach Systems

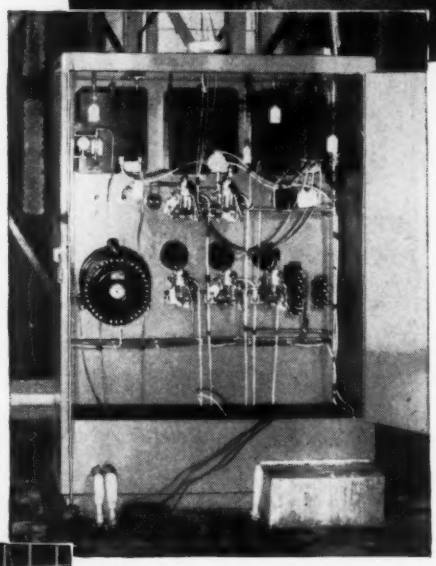
with Simpler Instrumentation

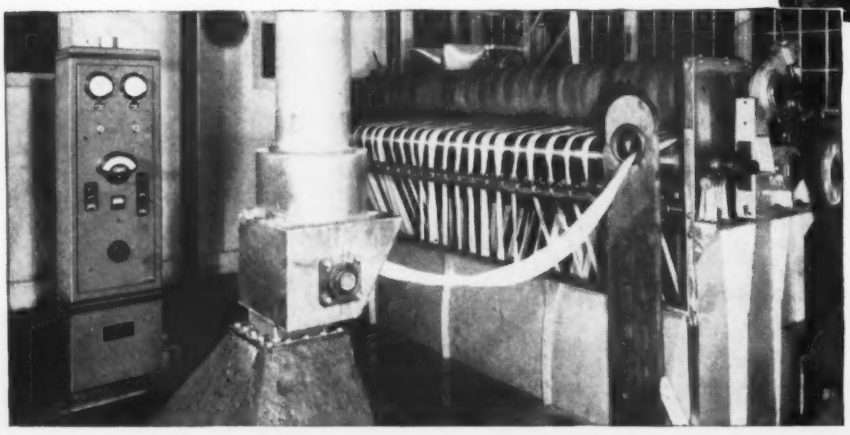


THIS Rodney-Hunt installation in a large New England print works is typical of the sixteen DuPont and Becco Continuous Peroxide Bleach Systems equipped with automatic Foxboro Instrumentation. It has completely lived up to expectations in every respect . . . speeding up production, cutting production costs and improving the quality of the product.

Foxboro Instrumentation has been a major factor in the development of these systems to their full capacities. It employs instruments precisely suited for each specific task and engineered with typical Foxboro thoroughness for simplicity and accuracy. Such instrumentation saves 50% on steam in addition to sizable amounts of caustic and peroxide. It also assures a more uniform chemical treatment.

If you are one of the many mill operators planning to install a Continuous Peroxide Bleach System, investigate the simplicity, economy and performance records of Foxboro Instrumentation. Discuss your project with a Foxboro engineer. Get detailed facts now from **The Foxboro Company, 84 Neponset Avenue, Foxboro, Mass., U. S. A.**





A. Instrument Cabinet for 1st section of a DuPont Continuous Peroxide Bleach System in a large New England plant. Foxboro Instruments used . . . 3-pen Temperature Controller; Liquid Level Controller; Pneumatic Loading Recorder and Indicators and a Recording Tachometer.

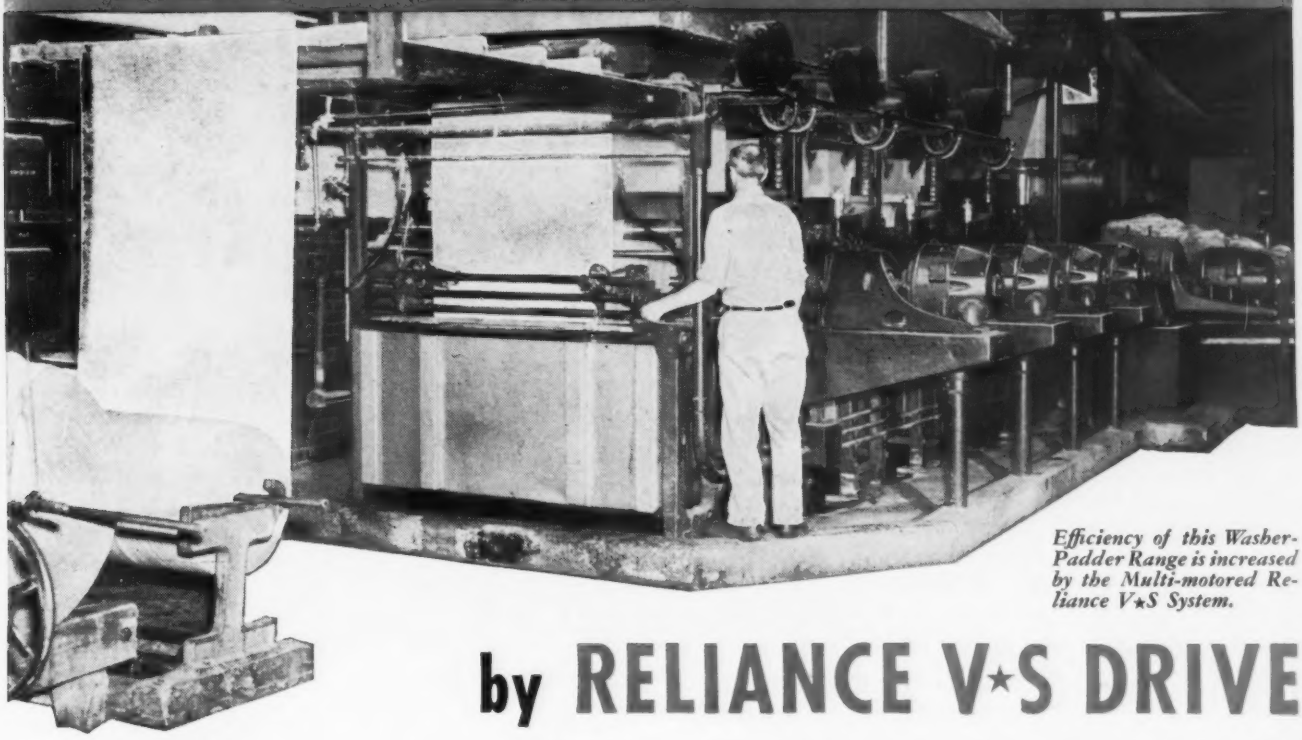
B. Back of Foxboro Instrument Cabinet for the 2nd section. It illustrates the outstanding advantages of Foxboro Control Cabinets – all connections except the few simple external ones are engineered by factory experts.

C. The Foxboro Cabinet for the 3rd section contains pneumatic loading indicators and a speed indicator. Cabinet Control is more convenient, looks better, and gives the instruments additional protection.

RECORDING · CONTROLLING · INDICATING

FOXBORO
REG U S PAT OFF
Instruments

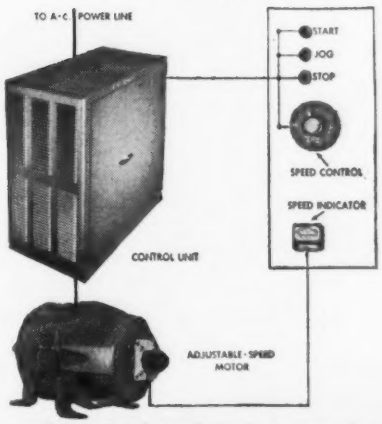
CORRECT SPEED and TENSION *automatically maintained..*



Efficiency of this Washer-Padder Range is increased by the Multi-motored Reliance V★S System.

by RELIANCE V★S DRIVE

Automatic maintenance of the correct speed and tension as material passes through the various sections of a range is only one of many important advantages of Reliance V★S Drive in textile operations. Others which contribute greatly to *faster processing* and *lower costs* include quick, smooth starts and stops and stepless speed changes with automatic or manual control at the machine or from remote stations. V★S, the *All-electric, Adjustable-speed Drive operating from A-c. Circuits,* has a record of paying for itself many times over from savings—in a great variety of textile applications. To investigate the possibilities, write today for Bulletin 311-A or call your nearest Reliance representative.



Conveniently-packaged, space-saving V★S Drives are available from 1 to 200 hp.

RELIANCE ELECTRIC & ENGINEERING CO.

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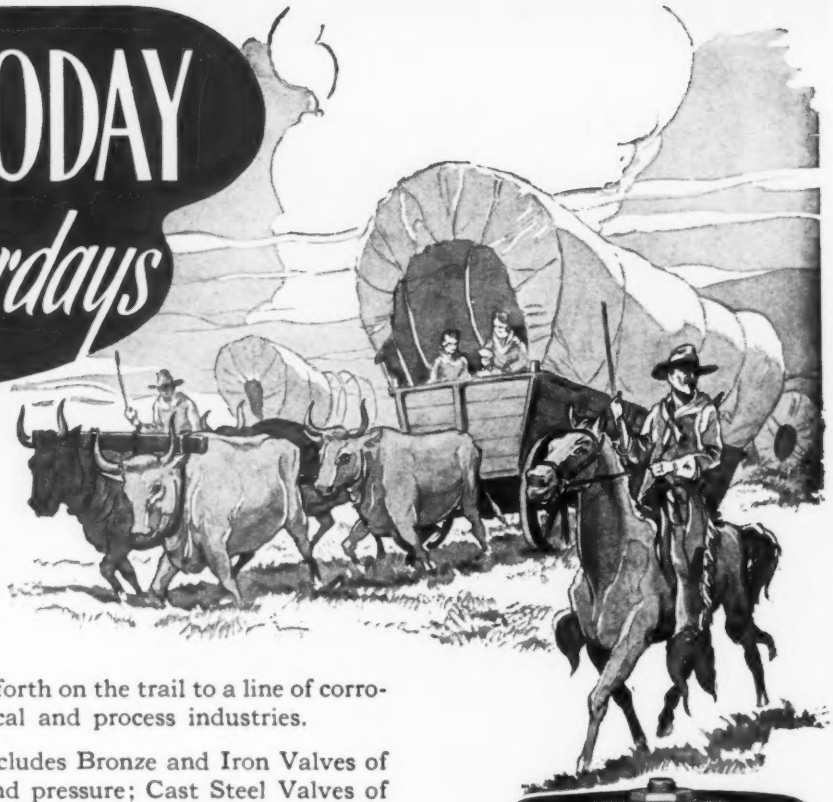
RELIANCE A-C D-C MOTORS

"Motor-Drive is More Than Power"

PIONEERS TODAY *as in the yesterdays*



More than a century ago Powell started pioneering in the field of industrial valves.

The first bronze regrinding globe valve was a *Powell "first"*.

And, twenty-five years ago, with the establishment of the Special Design and Alloy Valve Division, Powell Pioneers were the first to set forth on the trail to a line of corrosion-resistant valves for the chemical and process industries.

Today the complete Powell Line includes Bronze and Iron Valves of every required type, design, size and pressure; Cast Steel Valves of every type, in pressure classes from 150 to 2500 pounds; and, for the chemical and process industries, a complete line of Corrosion-Resistant Valves in many special designs and the widest range of pure metals and alloys ever used in making valves.

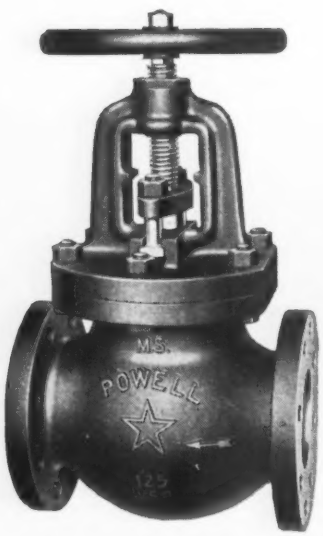


Fig. 241—Large 125-pound Iron Body Bronze Mounted Globe Valve. Made in sizes 2" to 16", incl. Has outside screw rising stem, bolted flanged yoke and regrindable, renewable bronze seat and disc. Also available in All Iron.

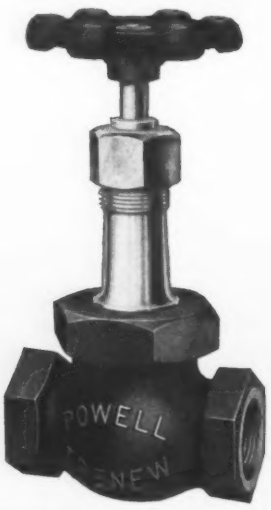


Fig. 190—Small 150-pound Iron Body Bronze Mounted "Irenew" Globe Valve. Has screwed ends, union bonnet and regrindable, renewable, wear-resisting "Powellium" nickel-bronze seat and disc. Also available in All Iron.

Fig. 500—Small 125-pound Bronze Gate Valve with screwed ends, inside screw rising stem, screwed-in bonnet and taper wedge disc: solid in sizes ¼" to ¾"; double in sizes 1" to 3"

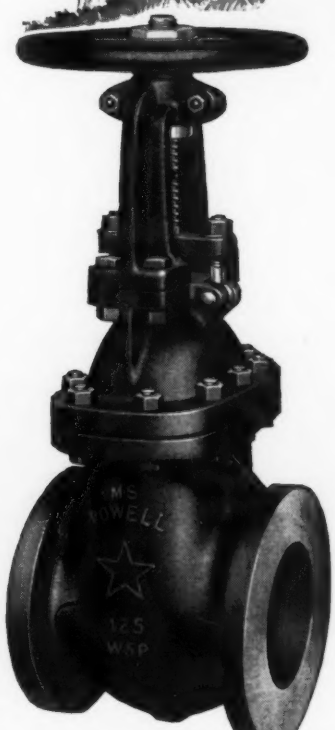


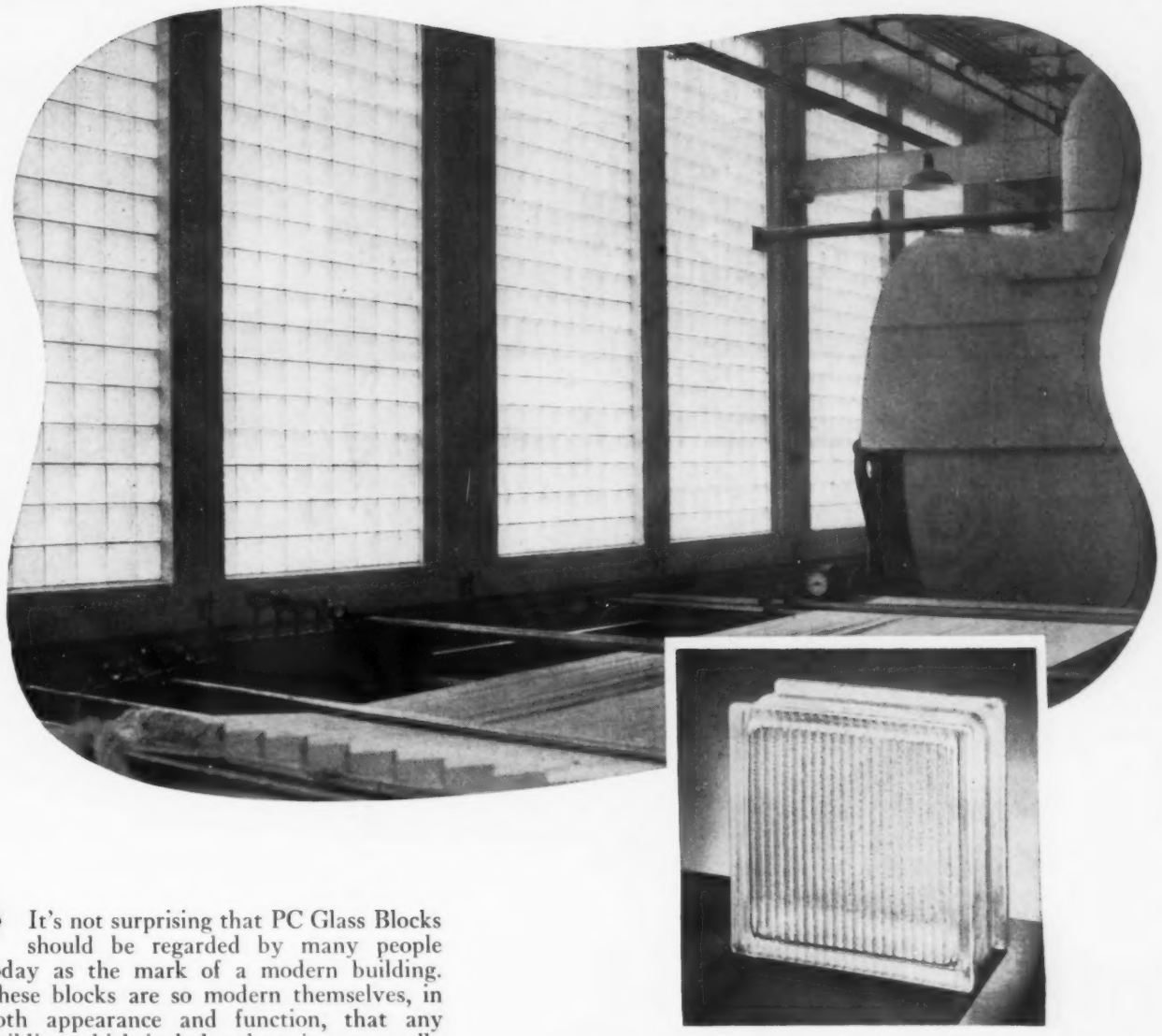
Fig. 1793—Large 125-pound Iron Body Bronze Mounted Gate Valve. Made in sizes 2" to 30", inclusive. Has outside screw rising stem, bolted flanged yoke and taper wedge solid disc. Taper wedge double discs can be provided in sizes 2" to 12", inclusive.

The Wm. Powell Co., Cincinnati 22, Ohio

DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

POWELL VALVES

THE MARK OF A MODERN BUILDING



It's not surprising that PC Glass Blocks should be regarded by many people today as the mark of a modern building. These blocks are so modern themselves, in both appearance and function, that any building which includes them just naturally seems modern, too.

PC Glass Blocks have won favor in the textile industry largely for one reason: they do so many things so well.

They add to the appearance of any structure . . . because they form bright, neat, translucent panels very appealing to the eye.

They transmit daylight generously into building interiors, and can even direct the daylight to where it is most needed.

Their excellent insulating properties mean greatly reduced heat loss through light areas, and consequent savings in heating and air-conditioning costs. They prevent infiltration of dust and dirt, deaden outside sound, clean easily. They can be combined with transparent glass sash construction. And they harmonize perfectly with any architectural style.

When you are considering new construction or modernizing old buildings, you can use PC Glass Blocks with confidence. They're the mark of a modern building. We invite you to send the coupon for complete information on PC Glass Blocks. Pittsburgh Corning Corporation also makes PC Foamglas Insulation.

PC GLASS BLOCKS

Pittsburgh Corning Corporation
Room 656, 632 Duquesne Way
Pittsburgh 22, Pa.

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FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET'S CATALOGS

GLASS BLOCKS

Distributed by PITTSBURGH PLATE GLASS COMPANY
by W. P. Fuller & Co. on the Pacific Coast and
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Only the SIDE of a V-Belt TOUCHES the Pulley

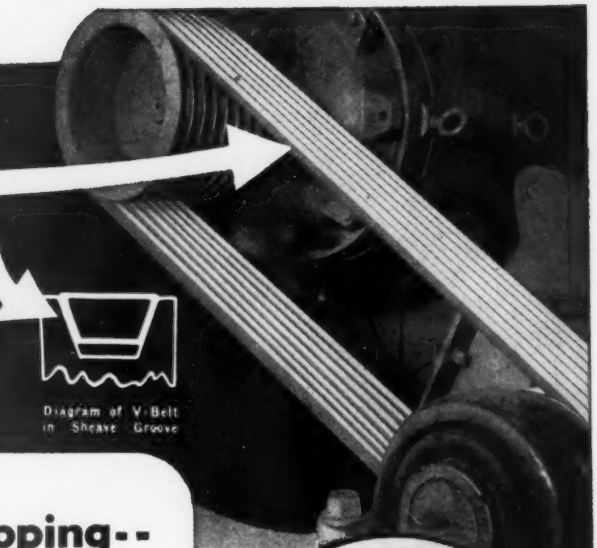


Diagram of V-Belt in Sheave Groove

The *SIDE* Does ALL the Gripping--
----Naturally it *GETS the WEAR!*

Every ounce of load a V-Belt *carries* must first be picked up by the sides of the belt. Clearly so, because *only* the *sides* touch the pulley! The sides do all the GRIPPING—they get all the WEAR against the sheave-groove wall. The sides pick up the load. They transmit that load to the belt as a whole. And then, once more, the sides—and the sides alone—grip the driven pulley and deliver the power to it.

No wonder you have always noticed that the sidewall of the *ordinary* belt is the part that *WEARS OUT FIRST.*

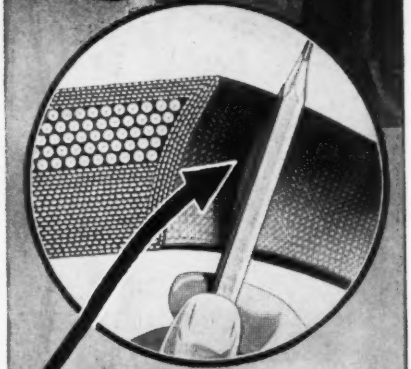
Now See How the Patented CONCAVE SIDE
★ *SAVES Sidewall Wear and Lengthens Belt Life!*

Naturally, since the sidewall is the part that wears out first, anything that prolongs the life of the sidewall will lengthen the life of the belt.

The simple diagrams on the right show exactly why the ordinary, straight-sided V-Belt gets excessive wear along the *middle* of the sides. They show also why the Patented Concave Side greatly reduces sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belt can possibly give.

★Longer Sidewall Wear is MORE IMPORTANT NOW Than Ever Before!

Now that Gates *SPECIALIZED* Research has resulted in Super V-Belts capable of carrying much heavier loads—up to 40% *higher horsepower ratings* in some cases—the sidewall of the belt is called upon to do even more work in transmitting these heavier loads to the pulley. Naturally, with heavier loading on the sidewall, the life-prolonging Concave Side is more important NOW than ever before!



The CONCAVE SIDE is a GATES PATENT

Straight Sided V-Belt

Fig. 1

How Straight Sided V-Belt Bulges When Bending Around Its Pulley

Fig. 1-A

You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.

Gates V-Belt with Patented Concave Sidewall

Fig. 2

Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt Is Bending Over Pulley.

Fig. 2-A

No bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall—and that means much longer life for the belt!

478

THE GATES RUBBER COMPANY, DENVER, U. S. A. "World's Largest Maker of V-Belts"

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks **IN ALL INDUSTRIAL CENTERS** of the U. S. and 71 Foreign Countries

Gates

THE MARK OF SPECIALIZED RESEARCH

MOBILIFT *"Pays Off"*

...ON MANPOWER

...ON TIME

...ON SPACE

Executives who have installed MOBILIFT notice an immediate drop in production costs. It is only natural that MOBILIFT should "Pay Off" when you consider its many advantages over hand labor methods. The biggest saving is on manpower. A MOBILIFT can do the job of a whole crew of hand labor—carries larger loads, eliminates re-handling, and protects workmen from accidents and back-breaking labor. MOBILIFT cuts the time on any materials handling job to only a fraction of the time required by a hand truck system. By stacking at higher levels, MOBILIFT increases your usable storage space. These are only a few of the ways MOBILIFT can reduce your costs. Write for full details today.

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835 S.E. Main St., Portland 14, Oregon

Please send me your illustrated folder on Mobilift Operation.

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MOBILIFT

★ MOVES MATERIALS LIKE A GIANT!

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All piping equipment for every need ...on one order to CRANE

Yes, sir! . . . one order gets you everything for the job . . . good, dependable material down to the last item. But that's just one way the truly complete Crane line helps to simplify all your piping jobs.

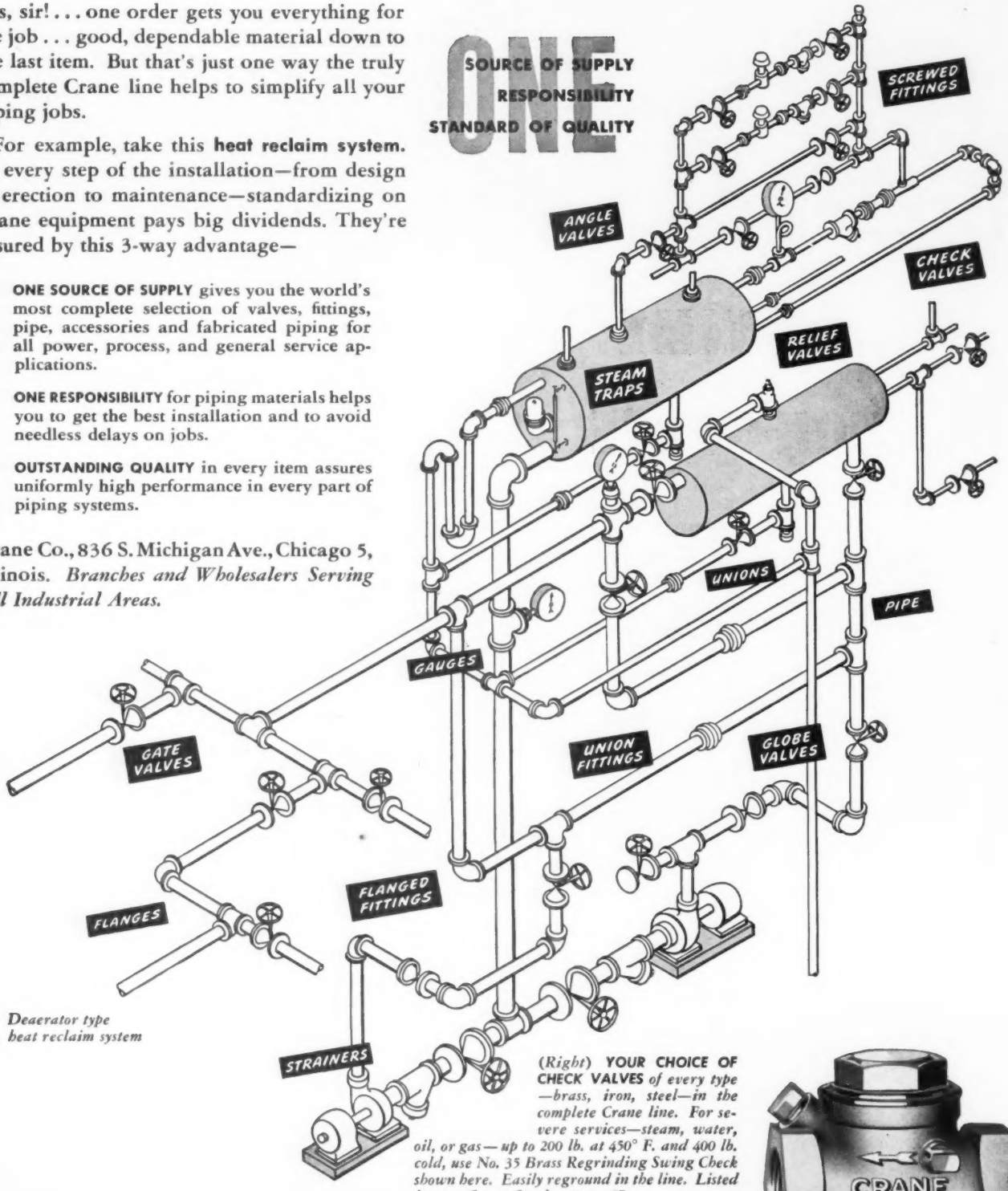
For example, take this **heat reclaim system.** At every step of the installation—from design to erection to maintenance—standardizing on Crane equipment pays big dividends. They're assured by this 3-way advantage—

ONE SOURCE OF SUPPLY gives you the world's most complete selection of valves, fittings, pipe, accessories and fabricated piping for all power, process, and general service applications.

ONE RESPONSIBILITY for piping materials helps you to get the best installation and to avoid needless delays on jobs.

OUTSTANDING QUALITY in every item assures uniformly high performance in every part of piping systems.

Crane Co., 836 S. Michigan Ave., Chicago 5, Illinois. *Branches and Wholesalers Serving All Industrial Areas.*



Deaerator type heat reclaim system

(*Right*) **YOUR CHOICE OF CHECK VALVES** *of every type —brass, iron, steel—in the complete Crane line. For severe services—steam, water, oil, or gas—up to 200 lb. at 450° F. and 400 lb. cold, use No. 35 Brass Regrinding Swing Check shown here. Easily reground in the line. Listed in your Crane Catalog, page 57.*

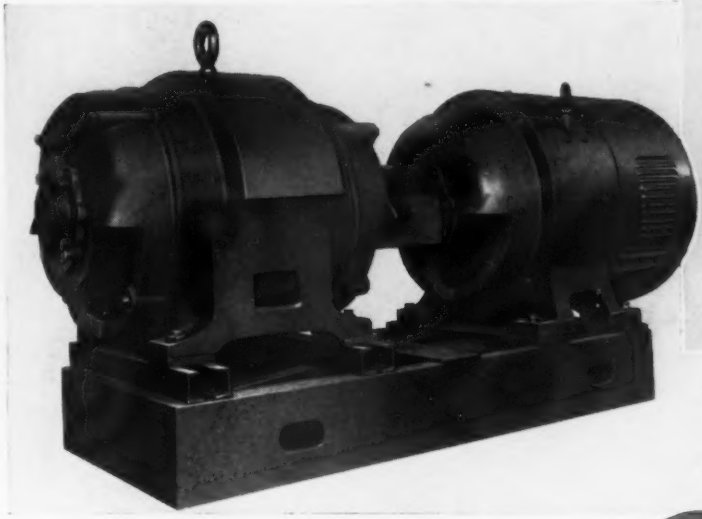
EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM

Century 125 horsepower motor generator set with the Synchronous motor excited from the DC generator.



Century 50 horsepower Synchronous motor with direct connected exciter.

CENTURY *Announces*

A NEW LINE OF

SYNCHRONOUS MOTORS

For Power Factor Correction

- **Type SY Synchronous Motors**
- **Type SYN Synchronous Motor Generator Sets**

Now available is a new line of Century high speed Synchronous motors from 25 to 150 horsepower, unity power factor, and 20 to 150 horsepower, 0.8 power factor — to meet the requirements of power factor correction.

Century supplies these motors without exciters when another source of direct current is available for excitation.

Century builds a complete line of fractional and integral horsepower electric motors and generators, in the popular sizes to meet the requirements of industrial production, processing, commercial and appliance needs.

Specify Century motors for all your electric power requirements.

Century C MOTORS

CENTURY ELECTRIC COMPANY

1806 Pine Street • St. Louis 3, Missouri

Offices and Stock Points in Principal Cities

1947 MACHINE TOOL SHOW
CHICAGO SEPT 17-26
DODGE CHICAGO PLANT Booth 368

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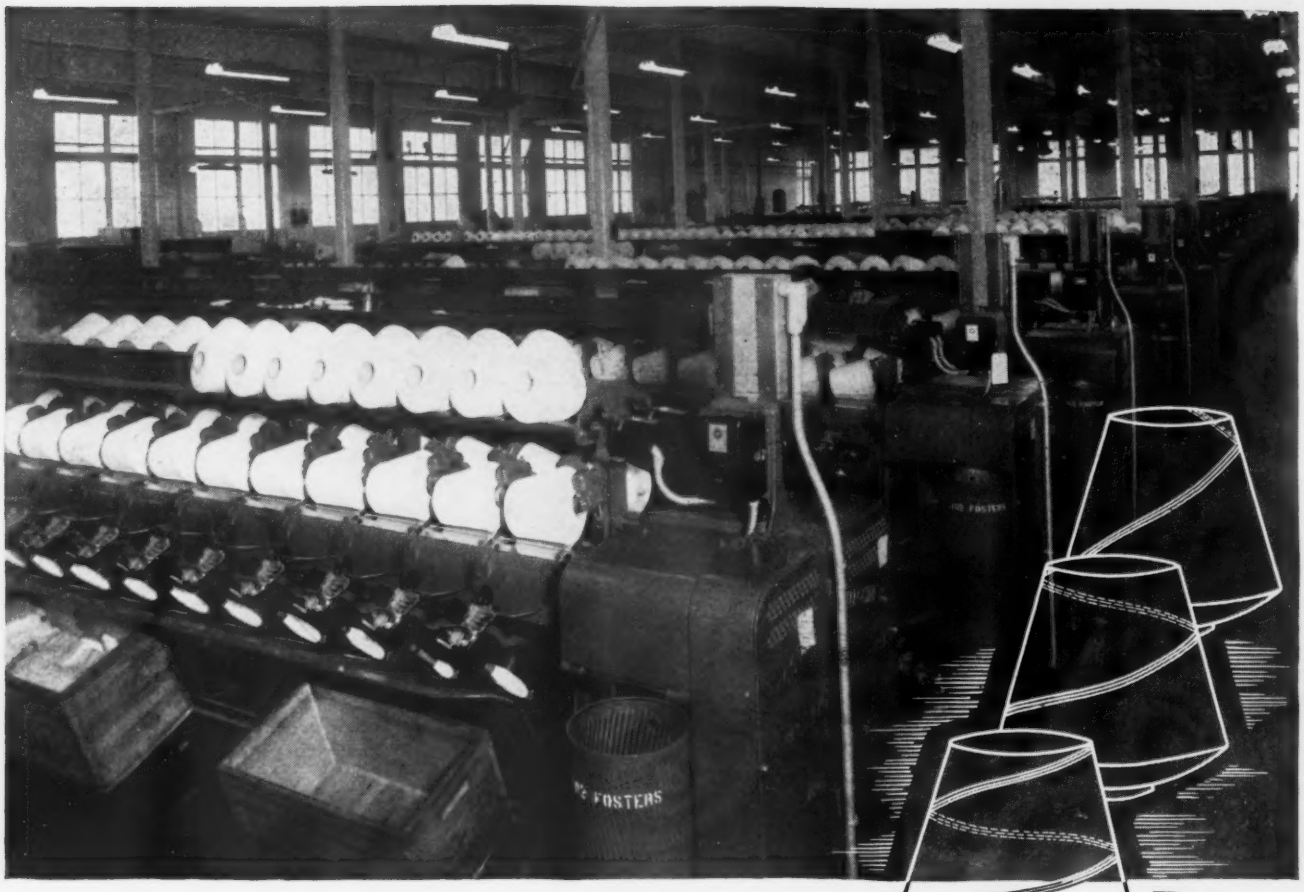


Smoother R.P.M. by Fafnir helps Foster get more Y.P.M. out of their 102 Winder

TWO TO THREE TIMES as much production with a third less labor per pound of yarn is good news in the textile industry these cost-ridden days. Foster did it with their new Model 102 Winding Machine by a series of ingenious refinements and the liberal use of Fafnir Ball Bearings.

In order to achieve uniform package density at these higher speeds, Foster uses the drum winding method. The yarn package is rotated on its spindle by means of a metal drum with a loose shell at the end contacting the small end of the winding cone. Fafnir Self-Aligning Ball Bearings are used on both the actuating cam shaft and the spindle. Both installations required a new method of fastening the bearings to the shafts and a simple, quick method of relubrication . . . developed jointly by Foster's and Fafnir's engineers.

The smooth, vibrationless operation of this mechanism is an important Foster feature. Another feature of the Foster Winder is that it can be changed from one type of put-up to another quickly and comparatively inexpensively, especially when an extra set of camshafts and camshaft ball bearings are used in the changeover—very important in these days when your order specifications change frequently. The Fafnir Bearing Company, New Britain, Conn.

Fafnir Mechani-Seal Ball Bearing used on Foster Model 102 Winder.

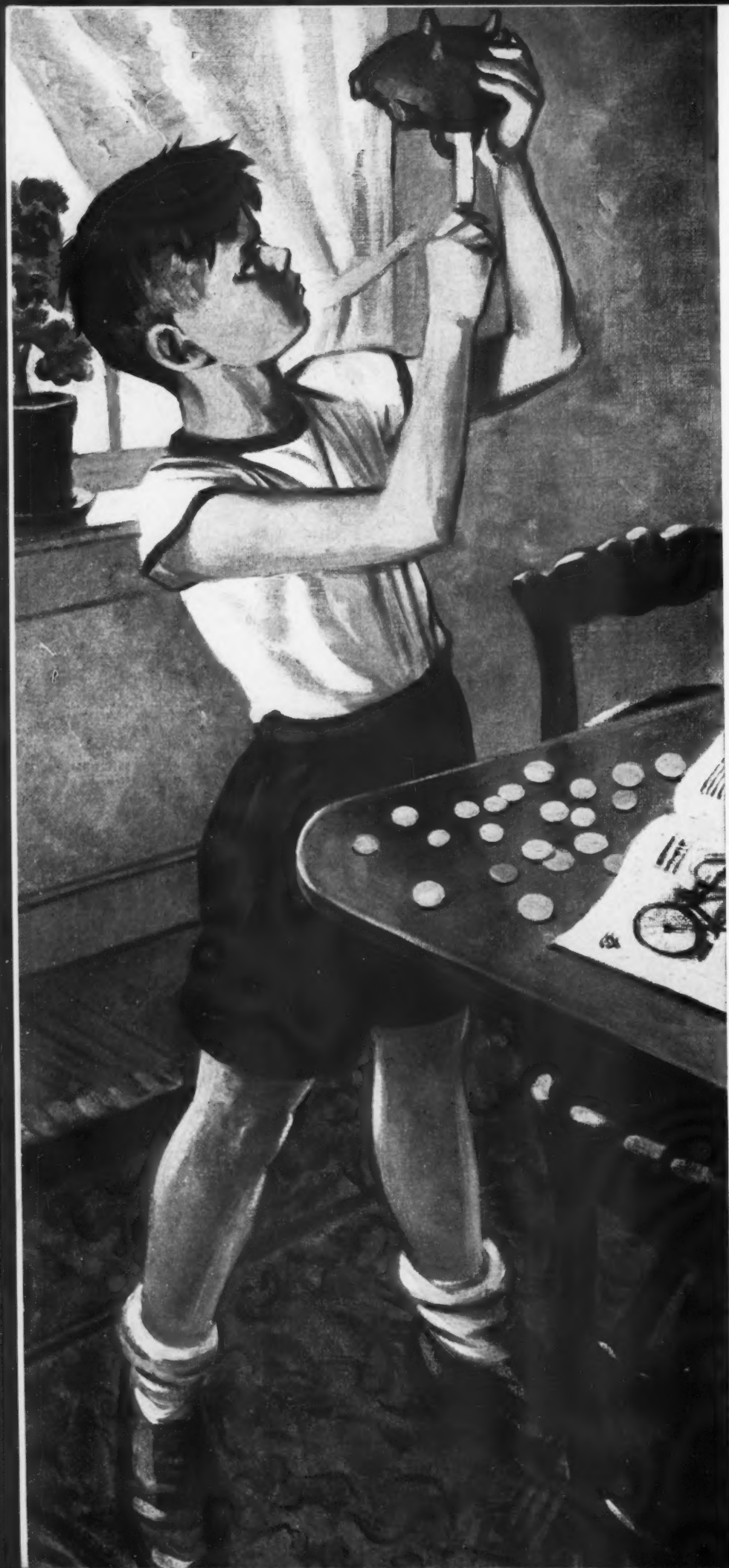
MOST COMPLETE LINE IN AMERICA

FAFNIR BALL BEARINGS

Sure Hit . . . Flawlessly-knitted, full-fashioned stockings set the pace in the fashion league . . . keep hosiery manufacturers in scoring position. To assure this perfection in knitting TMW Needles are "Fixture Drawn"* . . . Made by a special TMW patented process which holds the needles straight and true. Let us put your needle bars in shape for faster, more accurate, more profitable knitting.

* Reg. U. S. Pat. Off.

TEXTILE MACHINE WORKS • READING, PA.



When Johnnie Robbed the Bank

Johnnie was saving up for a bicycle. Sometimes he was late for supper—it was winter and he had the longest paper route in town. On Saturday morning, when he stacked the dimes and nickels and quarters on the dining room table, the first two dollars of profit went into a piggy bank for the new "bike."

Then the pond froze over and Johnnie wanted ice skates, so he "borrowed" $10 from the bicycle fund.

In January, the boys organized a model railroad club. Johnnie "borrowed" some more of the bicycle fund for a locomotive.

Then came spring—and Johnnie was ready to buy his bicycle. He had made enough money to pay for it, but the money wasn't in the piggy bank and nobody would give him cash for old ice skates or a second-hand locomotive.

•

A Manufacturer sets up a Reserve for Depreciation, but he doesn't put it in *reserve*.

Let's say he figures plant depreciation at 10% per year. At the end of five years, 50% of the plant value is on the books for replacement. It's on the "books"—but where is the money? The chances are it's tied up in the working capital.

A Manufacturer's Reserve for Depreciation belongs in *reserve*, a segregated fund always available for the purchase of new machinery. It's his only guarantee that the money for new machinery will be available when he needs it.

•

An advertisement on "Good Housekeeping in Business," published by the makers of Reading Full-Fashioned Knitting Machines.

TEXTILE MACHINE WORKS
READING, PENNA.

here's what it takes

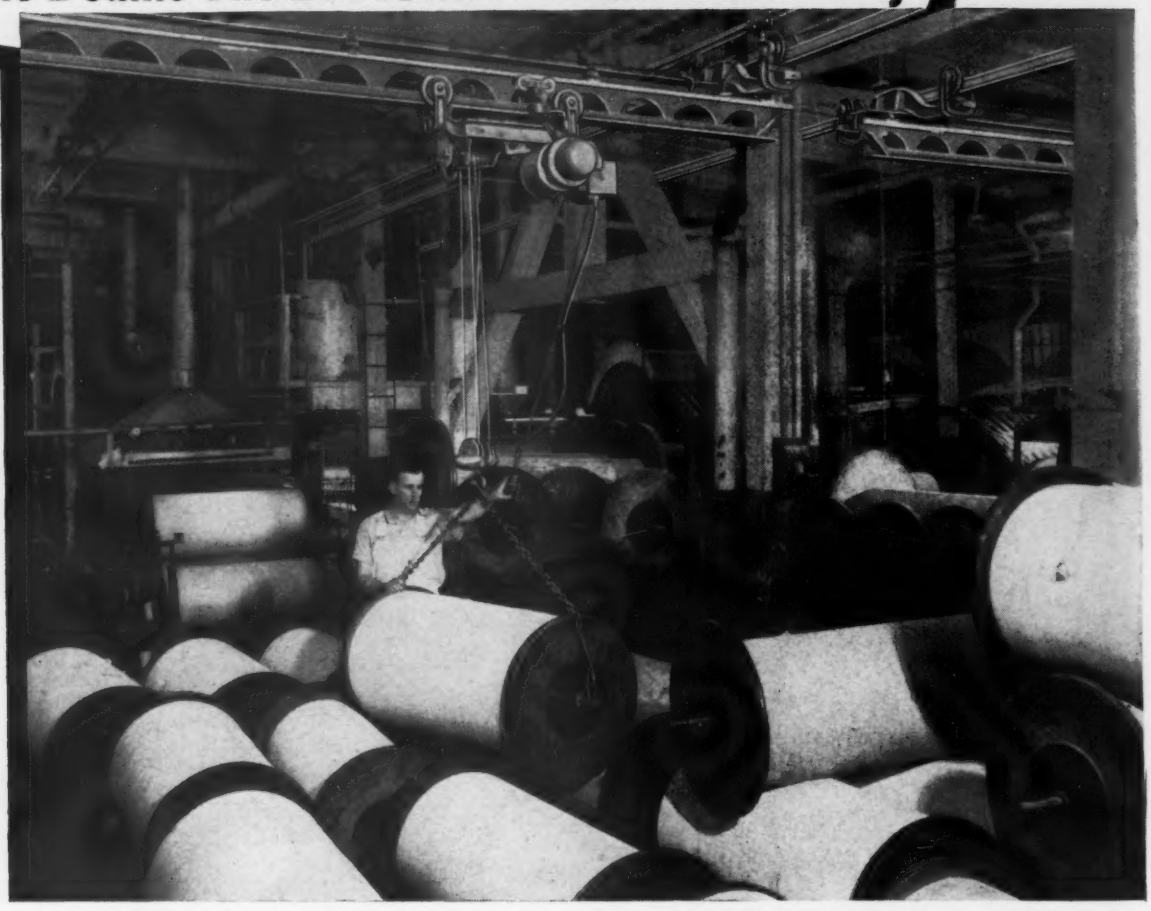
TECA, Eastman *crimped* acetate staple, is a fiber that puts life in a weave—gives it a naturally lofty hand—lasting resistance to wrinkles—a resistance to shrinkage that cannot wear off. That's why all-TECA weaves are now in the picture. And why so many new constructions have higher TECA percentages.

Consumers look for these TECA advantages—just as mill men look to this uniform staple for fine spinning qualities on any system, and for smooth running behavior on their looms.

EASTMAN—*crimped acetate rayon*

For further information about TECA, consult A. M. Tenney Associates, Inc., 10 East 40th St., New York, sales representatives for TENNESSEE EASTMAN CORPORATION (Subsidiary of Eastman Kodak Company), KINGSPORT, TENNESSEE.

it is Easier, Faster, Safer to
Handle Beams The EFFICIENT TRAMRAIL Way



To withdraw a beam from a tight spot is no problem when Cleveland Tramrail equipment is provided. Nor is it much of a task to transport and place it wherever required.

Transfer bridges, as illustrated above, are one of various types of Cleveland Tramrail handling equipment. They provide handling service for the entire area of each of the bays in which they operate. Because they can be interlocked to stationary rail spurs, loads can be transferred from one bridge to another, or to a track and switch system, and delivered from any point in one bay to any point in another without rehandling.

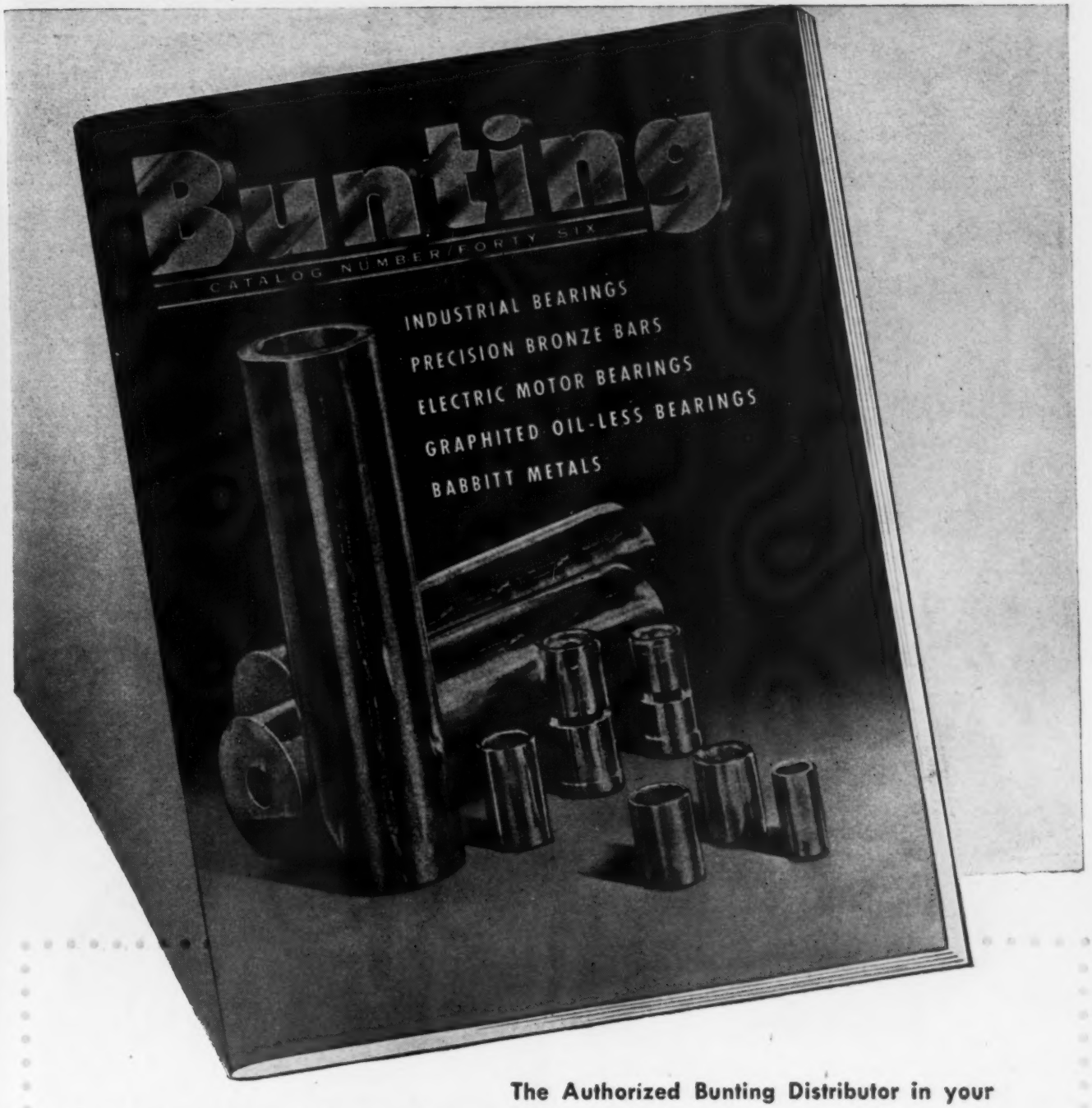
Wide aisles are not needed for overhead equipment. The many usual floor hindrances do not impede its operation. Thus floor space is saved and more efficient handling service is obtained.

GET THIS BOOK!

BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
8455 EAST 287TH STREET WICKLIFFE, OHIO

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT



The Authorized Bunting Distributor in your community has this new Catalog.

It lists: 256 sizes of Bunting Bronze Bars, 21 of them new; 842 Standard Stock Bearings, 76 new sizes; 270 Electric Motor Bearings, 36 new.

For the latest in Bunting Bronze ask your Distributor for Bunting Catalog 46. The Bunting Brass & Bronze Company, Toledo 9, O. Branches in principal cities.

69

BUSHINGS
BRONZE BEARINGS
PRECISION BRONZE BARS

Bunting

LOOMS • CARDS • PRINTING PRESSES

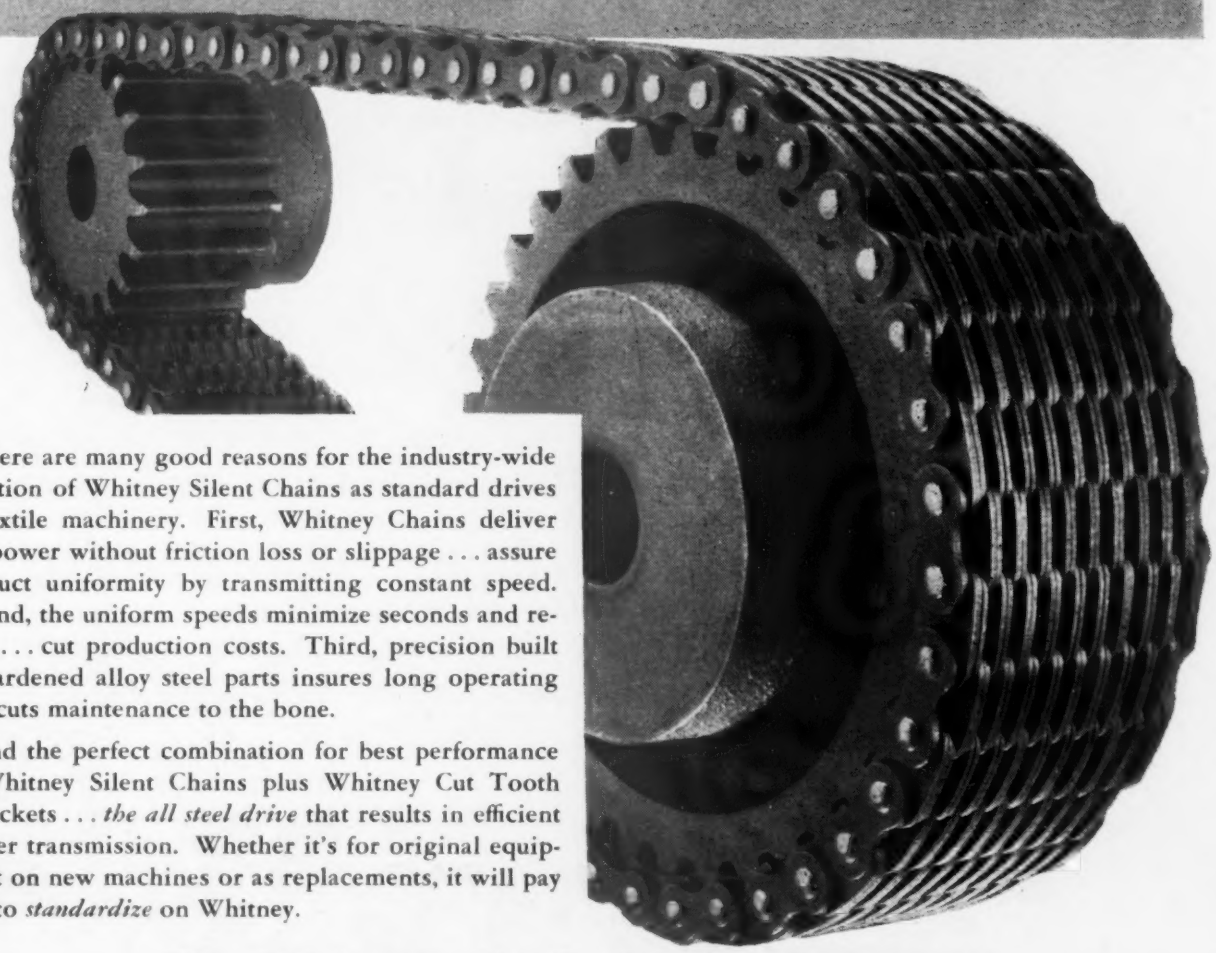
WHITNEY
SILENT CHAIN DRIVES
Assure Uniform Performance In Them All

DRYERS

NAPPERS

HOSIERY MACHINES • SPREADERS • KNITTERS

SLASHERS • WEAVERS • SPINNING FRAMES



There are many good reasons for the industry-wide selection of Whitney Silent Chains as standard drives in textile machinery. First, Whitney Chains deliver full power without friction loss or slippage . . . assure product uniformity by transmitting constant speed. Second, the uniform speeds minimize seconds and rejects . . . cut production costs. Third, precision built of hardened alloy steel parts insures long operating life, cuts maintenance to the bone.

And the perfect combination for best performance is Whitney Silent Chains plus Whitney Cut Tooth Sprockets . . . *the all steel drive* that results in efficient power transmission. Whether it's for original equipment on new machines or as replacements, it will pay you to *standardize* on Whitney.

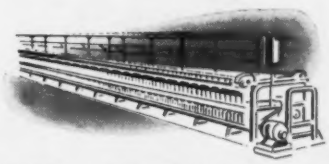
The Whitney Chain & Mfg. Company
HARTFORD 2, CONNECTICUT

"THEY'RE TOUGH COMPETITION"

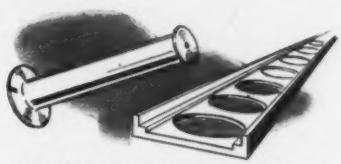
. . . not because they're located on a better stream, or own their own foundry, or send their output farther, faster, in clipper ships . . .

No, today's textile successes are being built on ingenuity and efficiency in the *processes* themselves. Higher machine speeds, better control of atmospheres, improved working conditions. "Nickel and dime" savings that mount into the thousands through the year. Mills that make ingenuity and efficiency their daily watchwords are *tough competition*. They are the mills that are making fullest use of Alcoa Aluminum. ALUMINUM COMPANY OF AMERICA, 1942 Gulf Building, Pittsburgh 19, Pennsylvania. Sales offices in principal cities.

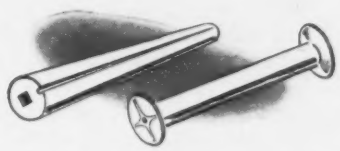
★ IDEAS YOUR COMPETITORS ARE USING TO BOOST EFFICIENCY WITH ALCOA ALUMINUM ★



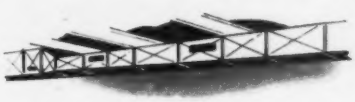
LIGHTER MACHINE FRAMES and parts made of Alcoa Aluminum lighten floor loading and decrease vibration.



MOVING PARTS, from bobbins to extruded sections 60 feet long, boost machine speeds.

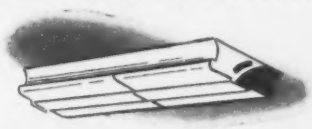


CLOTH ROLLS, loom and warp beams are clean, splinter-free, cost less to ship.



DUCT WORK of Alcoa Aluminum Sheet eliminates drip stains, protects every yard.

LIGHT, CLEAN walls and better work come with aluminum paint, pigmented with Alcoa Albron Pigment.



ALZAK* ALUMINUM reflectors light working areas efficiently, require little maintenance.

* Patented process, Aluminum Company of America

MORE people want MORE aluminum for MORE uses than ever

ALCOA FIRST IN ALUMINUM

IN EVERY COMMERCIAL FORM

Whether you're in a hurry — or have lots of time —

call us for **Steel**

WE hope you aren't always in a "jam" when you call us for steel. But when you are, we will give you the fastest possible service. And for anticipated needs, you can depend upon us to give your orders exacting attention.

Whether you need a pound or a ton of steel—whether you require Stainless, High Strength or Alloy Steels . . . Hot Rolled or Cold Finished Bars, Structural Shapes, Plates, Sheets, Machinery, etc. —call, wire or write our warehouse nearest you for prompt, dependable service.

UNITED STATES STEEL SUPPLY COMPANY
USS
STEELS
SERVICE

Symbol of Service

FOR STEEL USERS

UNITED STATES STEEL SUPPLY COMPANY

CHICAGO (90)	1319 Wabansia Ave., P. O. Box MM	BRUnswick 2000
BALTIMORE (3)	Bush & Wicomico Sts., P. O. Box 2036	GIlmor 3100
BOSTON	176 Lincoln St., (Allston 34), P. O. Box 42	STAdium 9400
CLEVELAND (14)	1394 East 39th St.	HEnderson 5750
MILWAUKEE (1)	4027 West Scott St., P. O. Box 2045	MItchell 7500
NEWARK (1), N. J.	Foot of Bessemer St., P. O. Box 479	BIgelow 3-5920 REctor 2-6560, BErgen 3-1614
PITTSBURGH (12)	1281 Reedsdale Street, N. S.	CEdar 7780
ST. LOUIS (3)	21st & Gratiot Sts., P. O. Box 27	MAin 5235
TWIN CITY	2545 University Ave., St. Paul (4), Minn.	NEstor 7311

UNITED STATES STEEL

Designed to last 12 times longer!

Actual production records from mills everywhere prove Dayco Woolen and Worsted Cots outlast other type cots by *at least twelve times.* These mill-proved records show that where Daycos have been installed production has been stepped up, yarn uniformity increased and matching up reduced to a minimum. After years of service, Daycos retain their original coefficient of friction and resiliency, show no signs of grooving or other deterioration. This means Dayco-equipped mills enjoy lower production costs and increased efficiencies. For additional information, write today to . . .

TEXTILE PRODUCTS DIVISION • DAYTON RUBBER
Main Sales Office: Woodside Bldg., Greenville, S. C.
Factory: Waynesville, N. C.

Additional Reasons Why You Should Specify Dayco Woolen and Worsted Cots

They simplify production schedules. More production of wanted numbers.

Any combination of wool, rayon and mohair can be run equally well with a minimum of lint.

Replacement kept at minimum.

They save up to two thirds of the time required in applying arbors.

Save time and labor formerly spent readjusting pressures after shutdowns.

They reduce your power requirements.

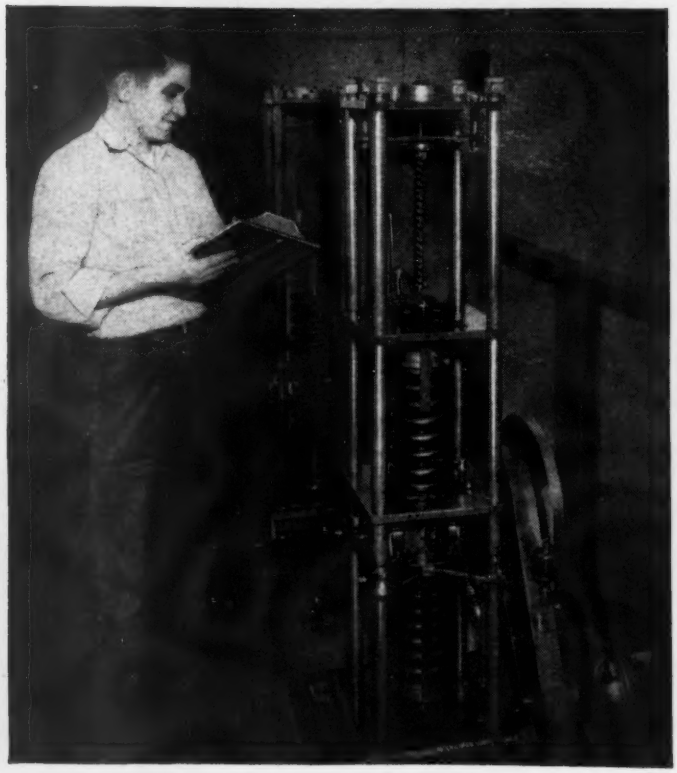
Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

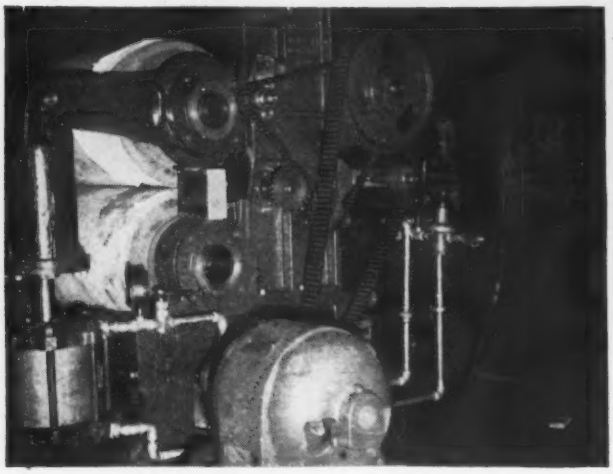
do you know Roller Chain...

is actually elastic!

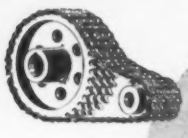
1 AND HERE'S WHAT that means to you. Where your equipment is subjected to momentary overloads and sudden strains, the inherent elasticity of roller chain will help absorb those damaging shocks and protect your equipment.



2 WE'VE ACTUALLY PROVED that roller chain is elastic. With this testing machine, designed and built by our engineers, we stretch this small section of Baldwin-Rex Roller Chain about ⅛-inch with each load application. We do this more than 10,000,000 times. Each time the chain must withstand the load and retract to its original length in order to meet our rigid specifications.



3 TAKE THIS DRIVE on a hydraulic squeezing machine. The elasticity of the Baldwin-Rex Chain absorbs the severe shock loads . . . yet continues to transmit the positive power needed to avoid spoilage. There is no slip . . . no power waste!



You can simplify replacement and chain selection, generally cut costs and improve deliveries by specifying standard roller chain. Your Baldwin-Rex Man will be glad to give you all the facts and help you with your application problems. Call him or write us direct.

BALDWIN·REX

ROLLER CHAINS

BALDWIN-DUCKWORTH DIVISION OF CHAIN BELT COMPANY

346 Plainfield Street, Springfield 2, Massachusetts

BODY SIZE

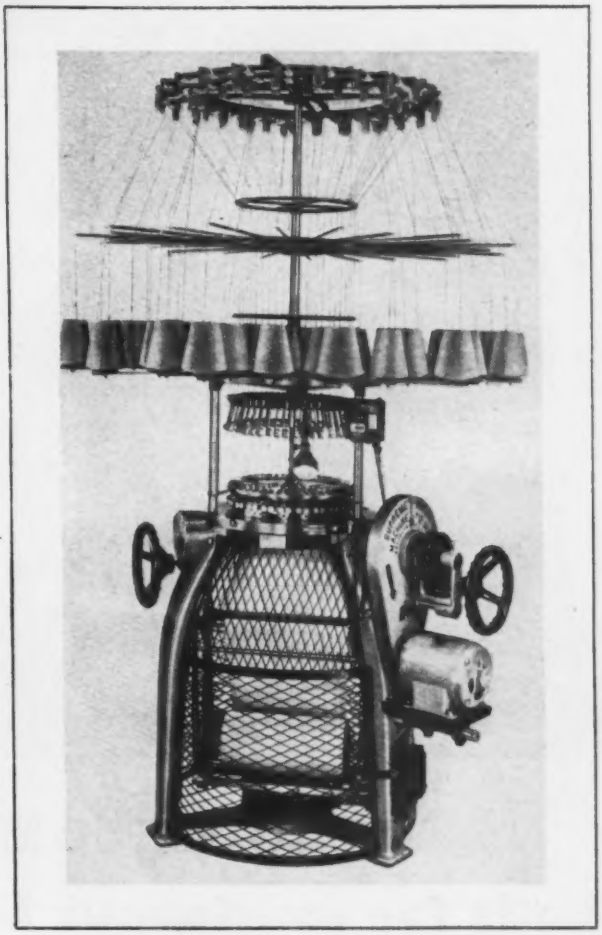
UNDERWEAR AND POLO SHIRTS

With

Supreme

Body Size

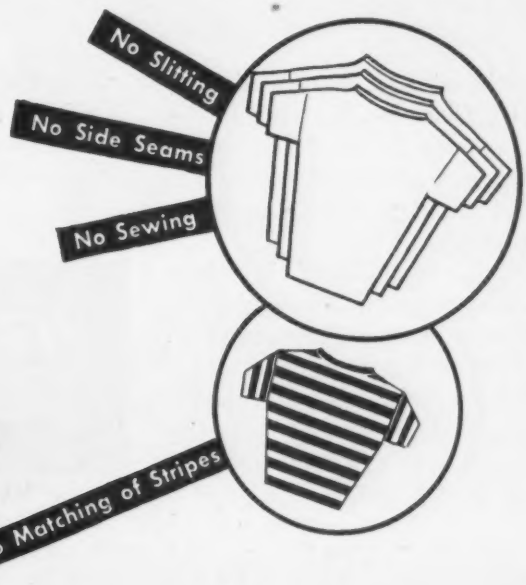
Model MJ



Supreme Body Size Model MJ eliminates slitting and sewing of side seams and matching of stripes on polo shirts and underwear. The planned Body Size comes right off the machine at the amazing rate of 100 yards an hour.

Let us help you select the proper Body Size Model MJ to knit the garment sizes in demand at your mill.

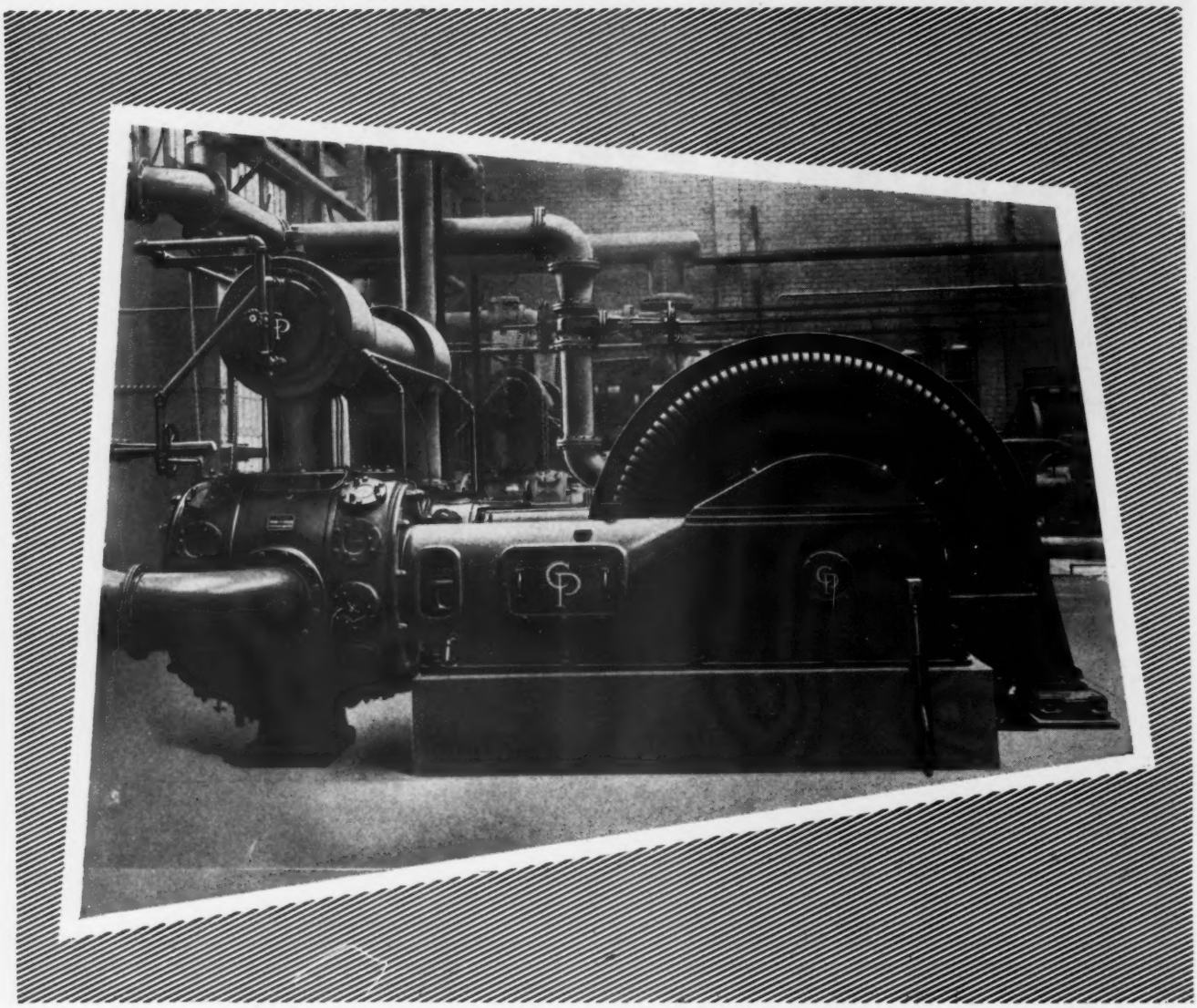
Dia.	Feeds
9"	28
10"	32
11"	34
12"	38
13"	40
14"	44
15"	48
16"	50
17"	54
18"	56



SUPREME

KNITTING MACHINE CO., Inc.

105 JOHNSON AVE., BROOKLYN 6, NEW YORK N. Y.



O-CE COMPRESSOR

built for continuous heavy-duty operation

For the steady, heavy-duty job the CP Class O-CE motor-driven Compressor is ideal because of its rugged construction, conservative rating and low power consumption.

Quick-acting Simplate valves . . . streamlined air passages . . . multi-step capacity regulation . . . effective intercooling and water jacketing . . . efficient lubrication — are all features that make for high efficiency and dependability.

The CP Class O-CE Compressor is of the horizontal, double-acting, water-cooled type, with direct-mounted synchronous motor drive. Furnished in sizes up to 1,500 h.p., for pressures up to 5,000 pounds. Write for full information.

CHICAGO PNEUMATIC TOOL COMPANY

General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

PLANNED POWER TRANSMISSION . . .
THE *Wood's* WAY OF CONTROLLING YOUR APPLIED HORSEPOWER . . .

to increase your production while reducing your maintenance, replacement and repair costs.

Wood's Long-Life Line Products are carefully designed and precision-made. Every product has inherent quality built in it. Each of them is the result of sound engineering, the best of materials and the time-proven manufacturing methods of more than 90 years experience in the production of Quality Power Transmission Equipment.

To insure smooth, trouble-free operation . . . include Wood's Products in your designs of new and reconditioned machines and layouts.

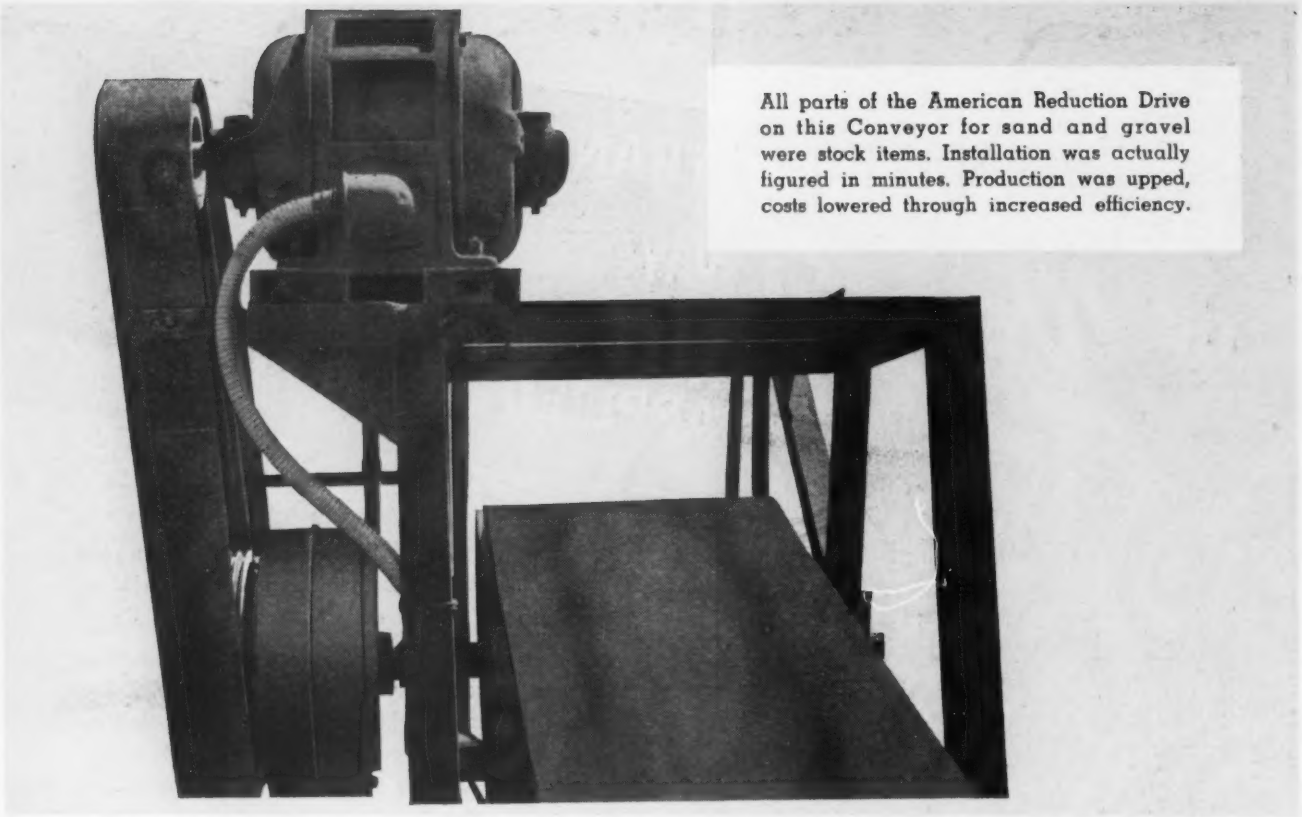
WOOD'S PRODUCTS
FOR POWER TRANSMISSION

Pulleys • Clutches • Hangers
Pillow Blocks • Couplings
Bearings • Collars • V-Belt
Sheaves and Complete Drives

the LONG LIFE LINE

T. B. *Wood's* SONS COMPANY
CHAMBERSBURG, PA.

BRANCHES: BOSTON, MASS. NEWARK, N. J. PITTSBURGH, PA. CLEVELAND, OHIO DETROIT, MICH.



All parts of the American Reduction Drive on this Conveyor for sand and gravel were stock items. Installation was actually figured in minutes. Production was upped, costs lowered through increased efficiency.

JUST 2 FAST, EASY STEPS . . .

. . . And You Increase Output From Slow-Speed Machinery!

NOW you can easily give your slow-speed machinery the production advantages of American Reduction Drives—in a matter of minutes! Design simplicity, easy installation, and *immediate delivery of all parts from stock* permit you to put your equipment into operation, *fast!*

STEP 1. *Select From The Catalog!* The complete drive, including the Reduction Drive Unit with a standard speed ratio of 13-to-1, can be laid out from dimensions in the catalog. Any driven speed between 11 and 154 rpm, on jobs from 1/4 to 25 hp., can be obtained with standard, stock sheaves and belts.

STEP 2. *Install In A Matter of Minutes!* The Speed Reduction Unit mounts right on the shaft extension of the driven machine. No special foundations or supports are needed. To complete, just install the sheaves and belts of the primary drive.

And then think of the production advantages you get! Maintenance costs go down because the primary belt drive cushions the impact of starting loads, thus easing strains on motors and gears. And the proper speed plus less down time pays off in increased production.

Your key to all these advantages is The American Reduction Drives Catalog. Send for it—then use its complete engineering data and drive selection tables to put these versatile drives to work, now. Your note to us starts it on its way.

The American Pulley Company
4260 WISSAHICKON AVE., PHILADELPHIA 29, PA.

TEXTILE WORLD'S WOOL FLOW CHART

HIGHLIGHTS: *Oldest major textile fiber is subjected to greatest variety of production methods — Appearance and feel of product are important influences on manufacturing steps — Greatest variation is in finishing procedures.*

WOOL, the oldest and most variable major textile fiber, is subject to many variations in manufacture. In manufacturing wool into cloth, the senses of touch and sight are used to a greater degree than they are in cotton or rayon. Many of the processes through which wool passes are to improve the appearance or feel of a yarn or fabric; and, this being true, it is rare that any two persons will agree as to precisely what constitutes the proper sequence of machines and operations that should be used.

The particular wool selected influences the processes used both in the manufacture of yarn and in the finishing of cloth. Processes shown here are, in most instances, those considered normal, except in the case of French spinning. In that line is shown what is considered to be the best-recommended modern system.

From the foregoing, one should not infer that precision testing equipment is not used in wool processing – much is, particularly for checking the counts of yarn. So many tests are made at a variety of places along the line that to include them would considerably clutter up the chart. The same is true for inspection operations, particularly in the finishing lines.

Carbonizing of wool requires some special mention. When stock is carbonized, of course it is not customary that the piece goods be carbonized. In stock carbonizing in the chart, all the processes of the operation are shown; but in the finishing lines, the processes have been shown condensed for the sake of simplicity and because they constitute a range.

There are other ranges being used in parts of the cloth-finishing sequences and elsewhere. Space has not permitted showing all of the places that they could be used any more than it would permit showing all possible flows of all types of wool from the finest clothing to carpet types.

The chart shows mending and burling as the function of the weaving mill, as it usually is; but some integrated units burl and mend in their finishing departments. Some finishing sequences call for extracting before opening, as when centrifuges are used; the chart shows opening first since the photographs show vacuum or squeeze extracting.

Mill men will spot many more variations. TEXTILE WORLD's wool experts – Francois Cleyn, John Dalton, Eugene Schremp, and Gustav Zellnik – compromised on many items, particularly in view of the comments from forty others who checked the chart and gave their opinions. This chart could not have been produced without the fine cooperation from them all.–C. W. BENDIGO, *Editor.*

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THIS FLOW CHART continues the series which is ultimately to cover all major divisions of the textile industry. The cotton flow chart appeared in the January, 1947, issue; and the knitting flow chart, in the April issue. Both have won high acclaim as helping to fill a serious and long-existing gap in textile literature.

Reprints of all three flow charts can be obtained, as long as the supply lasts, from TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y. Both the wool and the cotton charts are priced at 25¢ (15¢ each in quantities of 20 or more). The price of the knitting chart is 15¢ each (10¢ each in quantities of 20 or more).

LEGEND

Red lines show usual flow of material

Black lines show alternate or optional flow

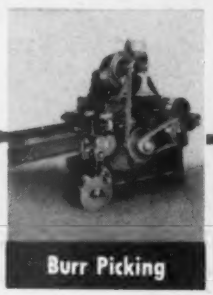
Triangles denote the end of a process

Scouring

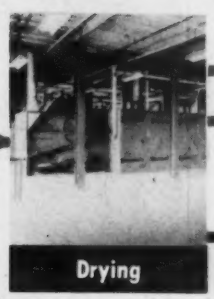
Bale

Sorting

Opening and Dusting


Burr Picking

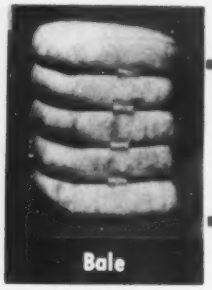
Scouring


Drying

Waste Reclamation

Reclaim Lanolin

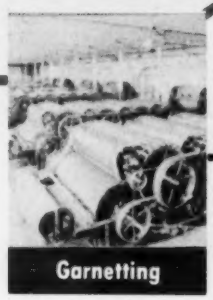
Rag Dusting

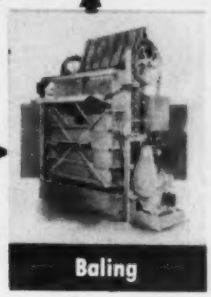

Bale

Picking

Lumping

Thread-Waste Cutting


Garnetting


Baling

Top Making

BRADFORD

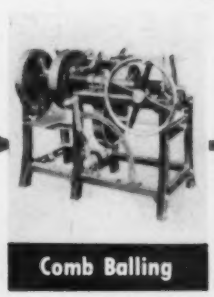
From Blending

Carding

Backwashing and Gilling

Doubler Gilling

Gilling


Comb Balling

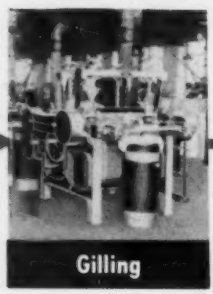
FRENCH

From Blending

Carding

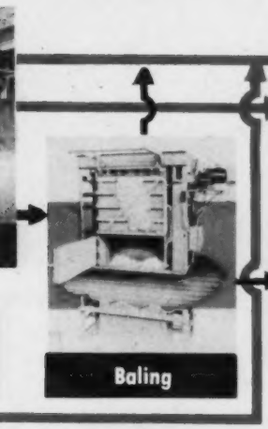
Gilling

Gilling


Gilling

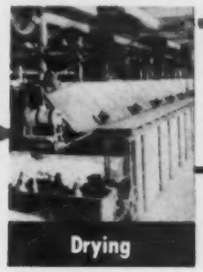
Combing

Stock Dyeing


Baling

Dyeing

Extracting


Drying

Baling

Storing

Blending

Breaker Car

Stock Carbonizing

Steeping

Dry and Bake

Dusting

Neutralizing

Drying

Blending
(Including Oiling)

Top Dyeing

Top Dyeing

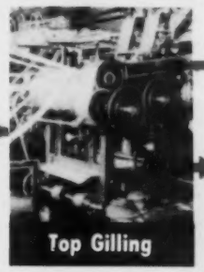
Drying

Gilling

Gilling

Combing

Finisher Gilling


Top Gilling

Noils

Gilling

Backwashing and Gilling

Finisher Gilling

Worsted Spinn

AMERICAN SYSTEM

Reducing

Drawing

Drawing

BRADFORD SYSTEM

Gilling and Oiling

Gilling

Heavy Drawing

FRENCH SYSTEM

Gilling and Oiling

Gilling

Gilling

Dyeing

Drying

Baling

Storing

Blending

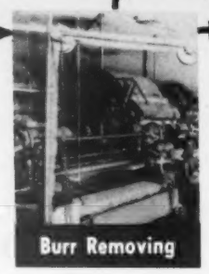
Breaker Carding

Intermediate Carding

Finisher Carding and Condensing

Ring Spinning

Blending (Including Oiling)


Burr Removing

Mule Spinning

g

tralizing

Drying

Worsted Spinning

AMERICAN SYSTEM

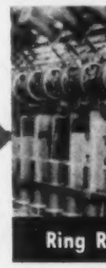
Reducing

Drawing

Drawing

Long-Draft Roving

Long-Draft Spinning

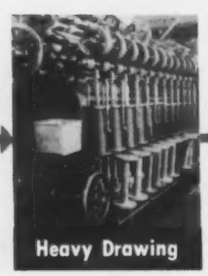

Ring R

Cone

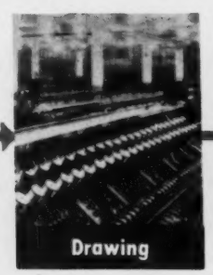
BRADFORD SYSTEM

Gilling and Oiling

Gilling


Heavy Drawing

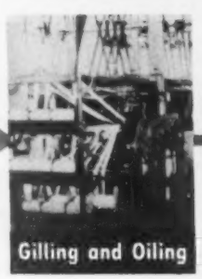
Weigh Drawing


Drawing

Fine Drawing

Fly R

FRENCH SYSTEM


Gilling and Oiling

Gilling

Gilling

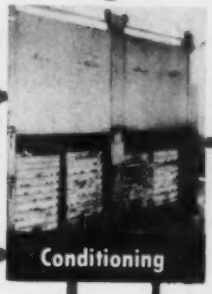
Gilling

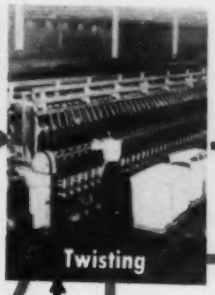
Gilling

Porcupine Finishing

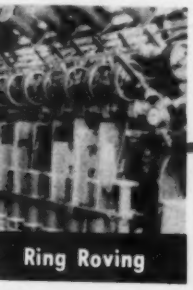
Porcupine F

Woolen Spinning

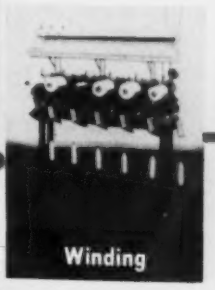


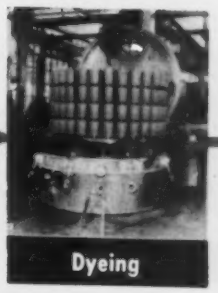


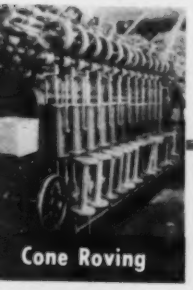
Skein Dyeing

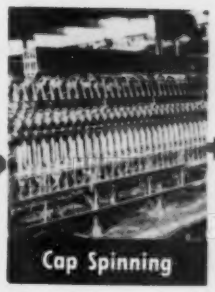


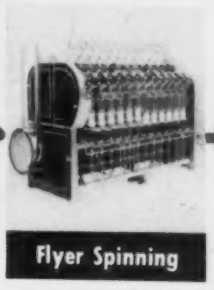
Package Dyeing

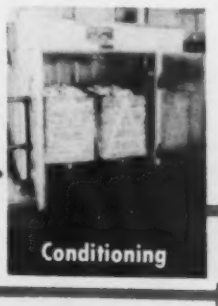


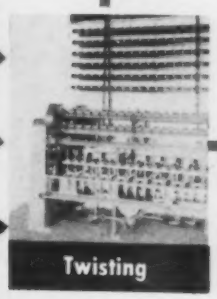


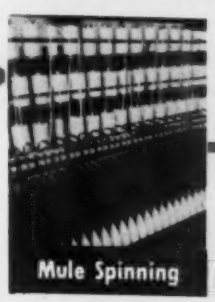


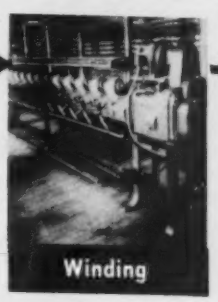






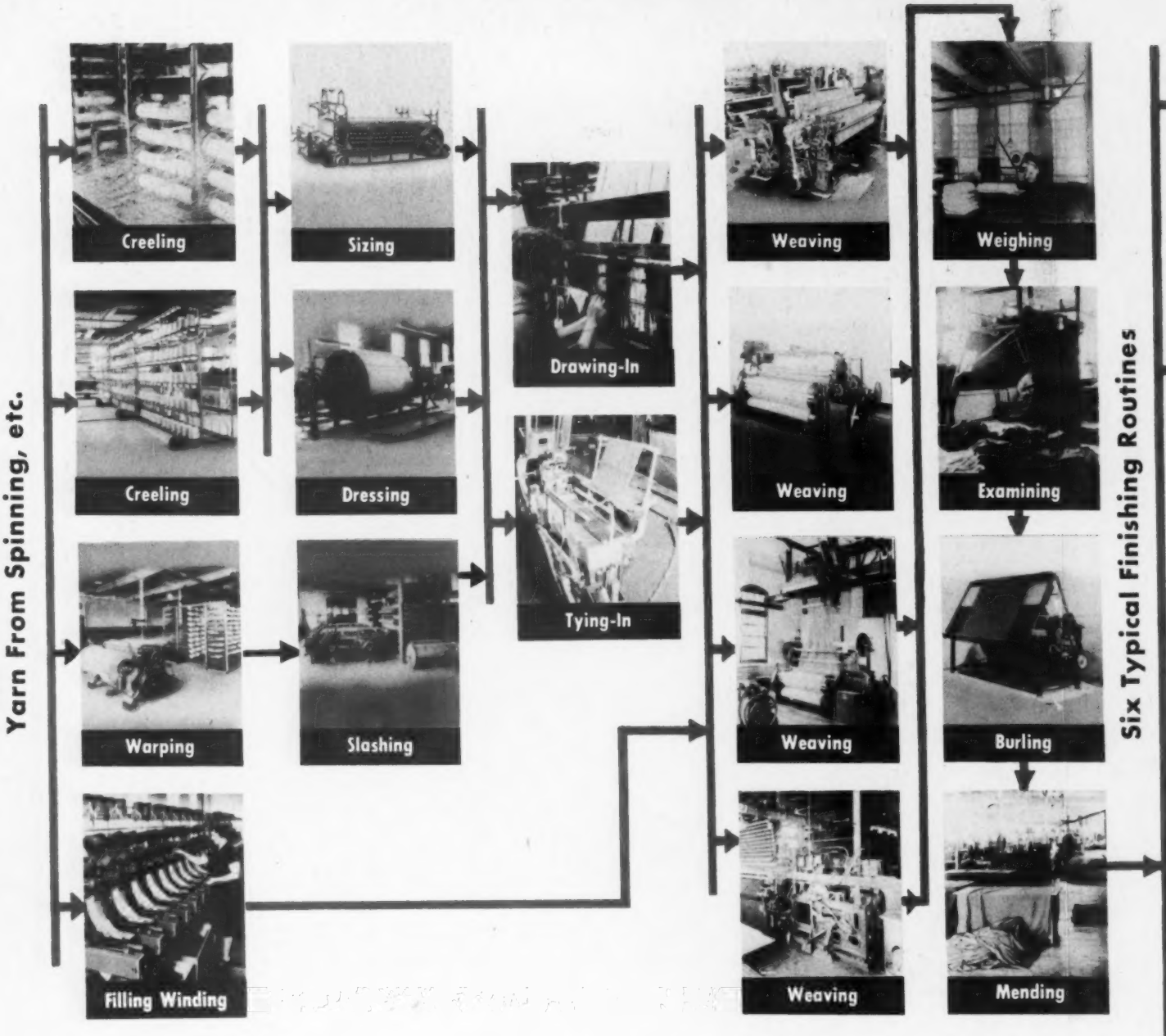






To Weaving and Knitting *(For Knitting See Flow Chart TEXTILE WORLD, April, 1947)*

Weaving



Acknowledgements

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Andrews & Goodrich, Inc.
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O. A. Benoit & Co.
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H. W. Butterworth & Sons Co.
Cook - P & N Machine Co., Inc.
Crompton & Knowles Loom Works
Curtis & Marble Machine Co.
Davis & Furber Machine Co.
Dinsmore Mfg. Co.
Draper Corp.
Economy Baler Co.
Foster Machine Co.
David Gessner Co.
James Hunter Machine Co.
Rodney Hunt Machine Co.
Industrial Dryer Corp.
Johnson & Bassett, Inc.
D. R. Kenyon & Son
Klauder Weldon Giles Machine Co.
National Drying Machinery Co.
Parks & Woolson Machine Co.
Proctor & Schwartz, Inc.
Robert Reiner, Inc.
Riggs & Lombard, Inc.
Saco-Lowell Shops
C. G. Sargent's Sons Corp.
James Smith & Son
Smith, Drum & Co.
Standard Fabricators, Inc.
Taylor-Styles & Co.
Universal Winding Co.
Whitin Machine Works
Woonsocket Napping Machinery Co.

Six Typical Finishing Routines

MEN'S WEAR

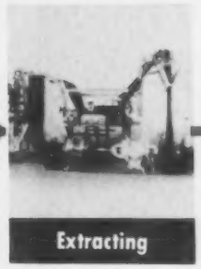
Colored-Yarn Worsteds

Singeing

Crabbing

Washing

Cuttling*


Extracting

Fulling

MEN'S WEAR

Piece-Dyed Woolens and Worsteds

Tacking

Soaping

Fulling

Washing

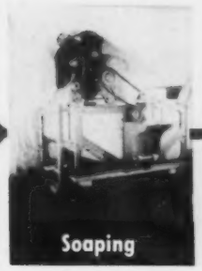
Detacking

Carbonizing

MEN'S WEAR

Wool-Filled Piece-Dyed Serge

Tacking


Soaping

Fulling

Washing

Detacking

Carbonizing

WOMEN'S WEAR

Piece-Dyed Granite Crepe

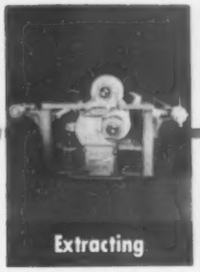
Crabbing

Tacking

Scouring

Detacking

Cuttling


Extracting

WOMEN'S WEAR

Piece-Dyed Flannel

Tacking

Soaping

Fulling

Washing

Detacking

Cuttling

VELOUR

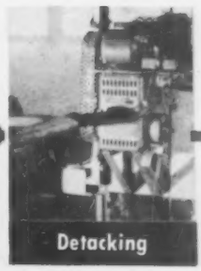
Tacking

Soaping

Scouring

Fulling

Washing

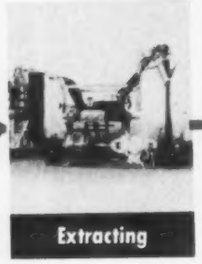

Detacking

*Opening and Folding

Finishing

Washing

Cuttling*


Extracting

Fulling

Washing

Cuttling

Extracting

Tenter Drying

Fulling

Washing

Detacking

Carbonizing

Dyeing

Cuttling

Extracting

Tenter Drying

Fulling

Washing

Detacking

Carbonizing

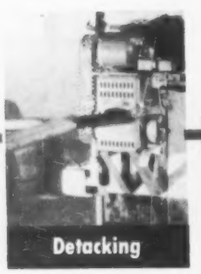
Dyeing

Cuttling

Extracting

Crabbing

Scouring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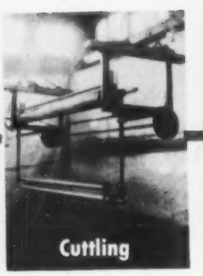
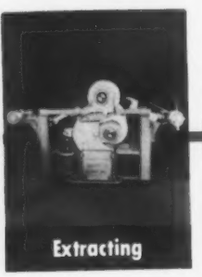
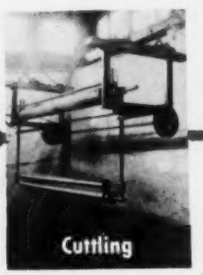

Cuttling


Extracting

Crabbing

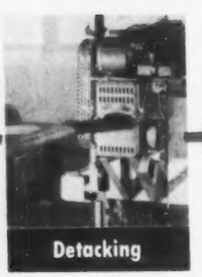
Dyeing


Cuttling

Extracting

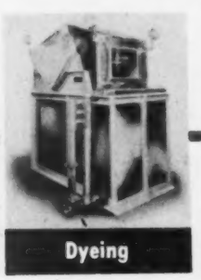
Fulling

Washing

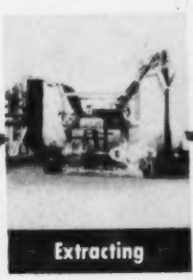

Detacking

Cuttling

Extracting


Dyeing

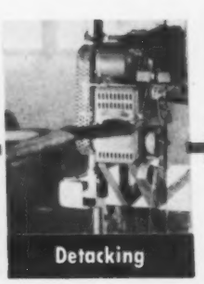
Cuttling


Extracting

Scouring

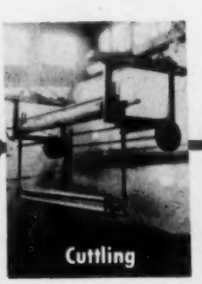
Fulling

Washing


Detacking

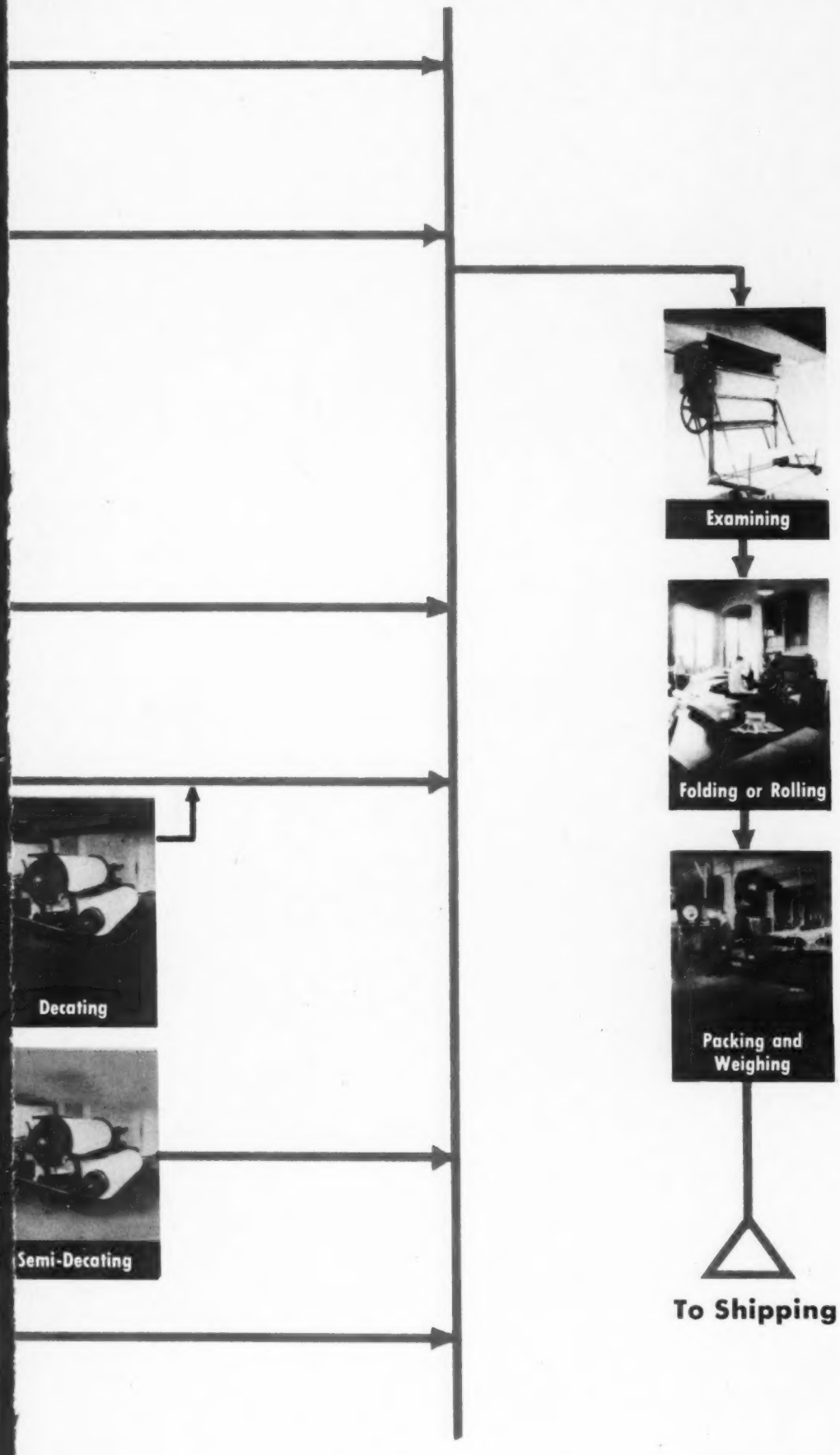
Carbonizing

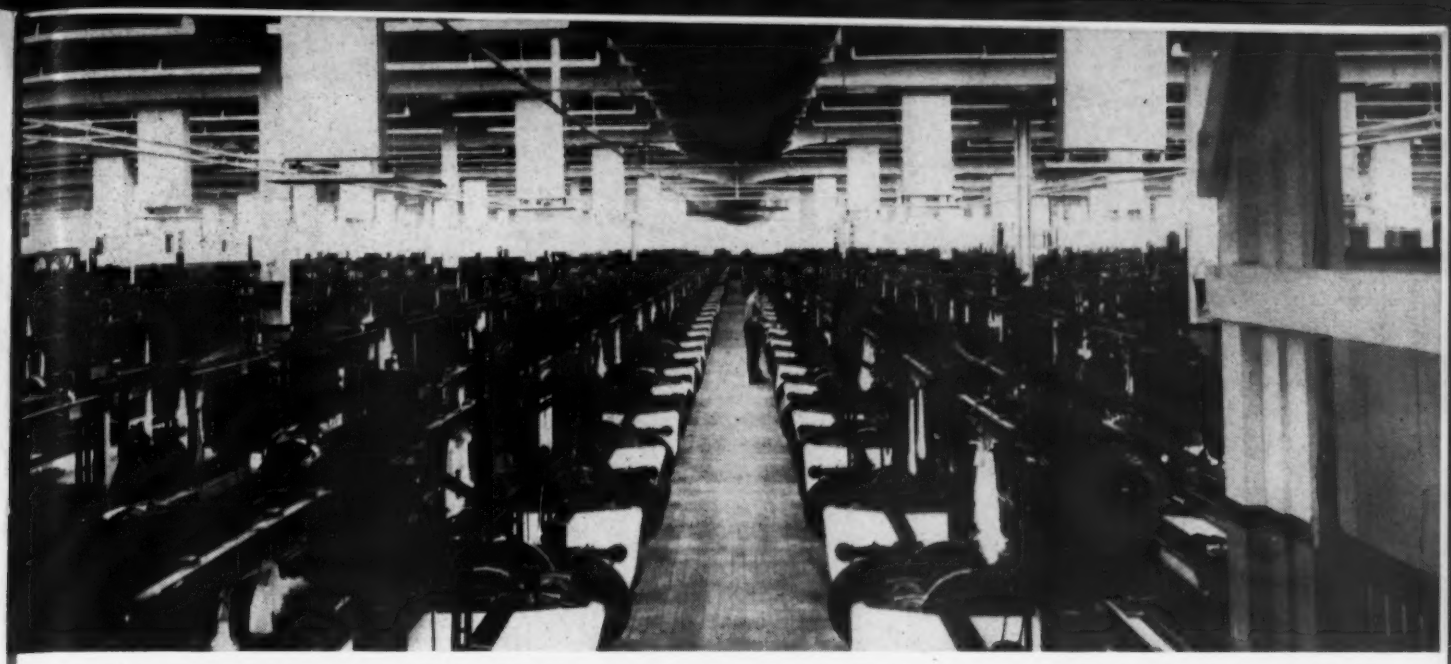
Dyeing


Cuttling

Extracting

Shearing
Specking
Brushing
Framing
Pressing
Decating
Shearing
Brushing
Framing
Pressing
Decating
Tenter Drying
Shearing
Brushing
Framing
Pressing
Decating
Tenter Drying
Shearing
Specking
Brushing
Framing
Pressing
Tenter Drying
Napping
Shearing
Brushing
Framing
Pressing
Gigging
Tenter Drying
Brushing
Shearing
Pressing


Examining
Folding or Rolling
Packing and Weighing
Decating
Semi-Decating
To Shipping



***Drayton Mills' weave room** uses Buensod-Stacey horizontal low-level air diffusion under the main distributing trunks. An additional 20,000 yd. of cloth per week resulted from improved system at Drayton.*

AIR CONDITIONING
Pays Off In Four Southern Mills

***HIGHLIGHTS:** Improved systems installed in China Grove Cotton Mills, Drayton Mills, Highland Park Mill—Temperatures reduced 10 to 15° in one mill—Efficiency increased 3% in another—Less loom maintenance required.*

AIR CONDITIONING is becoming increasingly important in the textile industry. Temperature control has become a new problem with new machines which operate at speeds heretofore considered impossible to attain and which create high heat but have minimum tolerance requirements. Precise regulation of humidity has become more essential because of the rising standards of quality and the keen competition for production efficiency. Both temperature and humidity control have taken on new significance in providing working conditions that meet today's requirements.

Recognizing the importance of air conditioning, mill operators have alloted a substantial part of their modernization budgets to improvement in this part of their plant equipment. It is estimated that expenditures for modern systems will amount to $10,000,000 this year and will total $40,000,000 in the next three years. The ceiling is availability of equipment.

Progress in the cotton and cotton-rayon divisions at present is in the transitory stage between the old humidifier spray systems and complete refrigeration, the ultimate goal. Refrigeration has been installed in a number of plants and is being installed in many more, but most mills thus far have attained only the intermediate point of evaporative cooling.

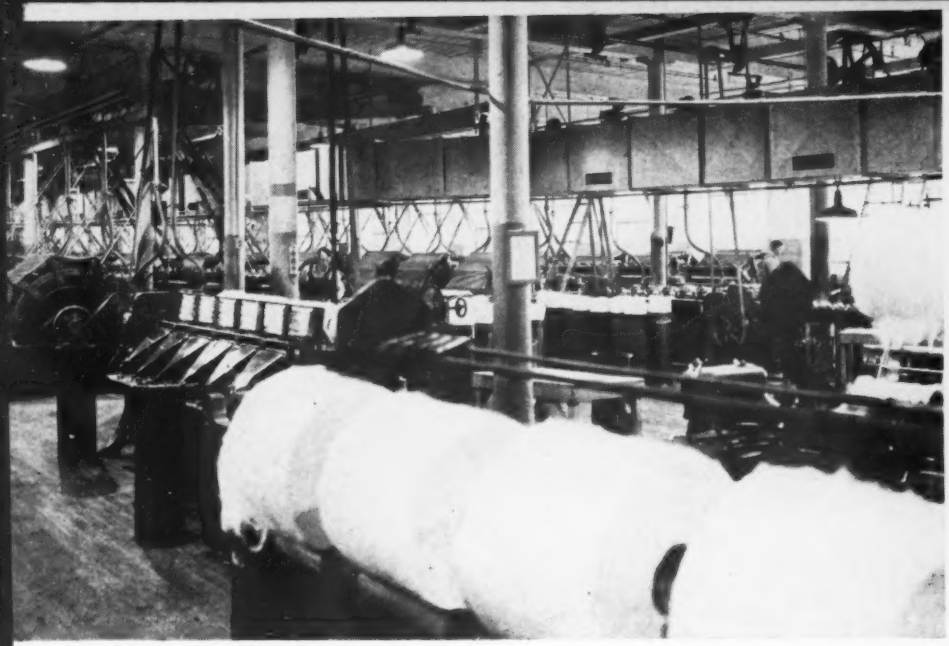
Results attained thus far from evaporative cooling, however, not only appear to justify the expenditures for this equipment but also the high expectations held for refrigeration.

INSTALLATIONS. For example, China Grove Cotton Mills Co., China Grove, N. C., which installed evaporative-cooling equipment just before the war, reports that 5 yr. of operation have proved extremely beneficial in improving quality and eliminating all regain losses. The company, which manufactures high-grade all-combed yarn, now ships its product with the standard commercial regain, a goal it found difficult to reach with uncontrolled humidifying equipment.

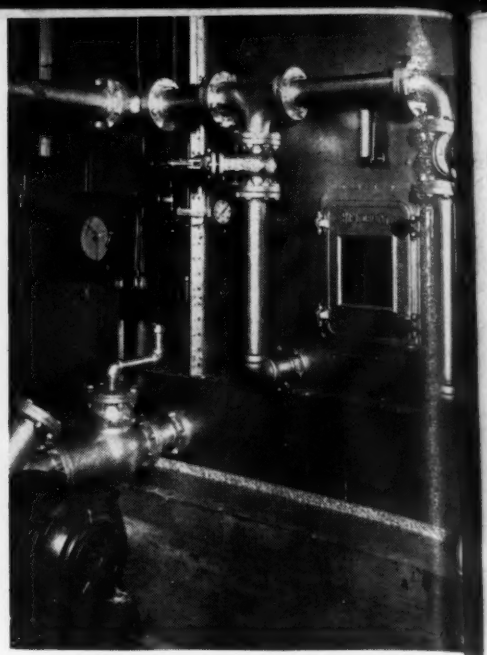
Superintendent E. M. Cushman reported that before the new equipment was installed, the No. 1 card room, which has a low ceiling, was very difficult to ventilate properly, with the temperature running excessively high during the summer. Now, he said, the temperature ranges from 10 to 15° F. lower than outside temperature, and the room is properly ventilated.

The evaporative-cooling system covers virtually every phase of operation in the existing mill, including carding, combing, spinning, spooling, twisting, warping, winding, and reeling. Only the picker room is not conditioned.

The No. 1 spinning room, which has 98 frames, is equipped with 27 Bahnson Humiduct systems, self-contained units which are mounted completely within the room. The No. 2 room, with 100 frames, has 45 Humiducts, and the No. 3 room, which will be in the plant addition being engineered by J. E. Sirrine & Co., will have 24 systems for 60 frames. In all, the mill will have 67,552 spindles. Minneapolis-Honeywell controls, a standard feature of the Humiduct system, hold relative humidity at 49 to 52% in carding, 52 to 55% in spinning, and 62 to 65% in twisting, and tem-



Card-room humidity *recommended is 45%. One central refrigeration system is expected to supply chilled water to the five evaporative-cooling central stations in this southern mill. Production efficiency has increased and morale has been improved.*



Central-station spray-type humidifier *by Buensod-Stacey at Drayton is constructed of welded steel plates and contains two banks of brass spray nozzles. At the left can be seen a dewpoint-temperature controlling recorder.*

perature at 78 to 84° F. throughout the mill.

Another manufacturer, Drayton Mills, Spartanburg, S. C., has found that its over-all efficiency has increased 3% since it installed central station systems last Feb. 1. The plant runs cotton, spun-rayon blends, and filament rayon. Records show that the cotton production has been increased 4% and rayon 2½%. This means an added output of 20,000 yd. of cloth a week. Seconds have been reduced materially.

Five Carrier central-station systems *are used in this South Carolina mill, and mill temperatures are reported 8 to 12° F. under outside summer temperatures.*

A complete central-station system of air conditioning was installed in the Drayton weave room in the early part of 1946. This installation was made by Buensod-Stacey, Inc., contractors; and the engineering work was done by Lockwood Greene Engineers. The system consists of four units arranged in two fan houses erected upon the roof of the weave shed. Each unit is complete, including fans, spray chambers, air filters, controls, etc. The four fans have a total capacity of 340,000 cu. ft. of air per minute. The layout is made so that refrigeration can be added in the future if needed.

Experience at this mill has shown that a relative humidity of 80 to 82% is most satisfactory for cottons, 70% for acetate and spun rayons, and 60% for viscose rayons. The weave room carries different humidities in the weave zones; and because of the type of system, the different humidities are attained with remarkably good results.

The spinning room is equipped with American Moistening Co. atomizers and air changers, and a complete atomizer system is installed in the card room and cotton preparation.

This mill uses irrigated cotton, and more moisture is required for this cotton than for rain-grown variety.

LESS MAINTENANCE. Records of a mill located in South Carolina show

that production efficiency has increased 2½% since evaporative cooling was installed in July, 1946. Charts show that the number of seconds has been reduced materially and looms require much less maintenance work because control of humidity has reduced the shrinkage and expansion of hygroscopic parts. Temperature control has decreased overheating.

In addition, the superintendent reports that the morale of workers has improved greatly. During the summer, temperature inside the plant was 8 to 12° F. cooler than outside; whereas it was just the opposite before the cooling system was installed.

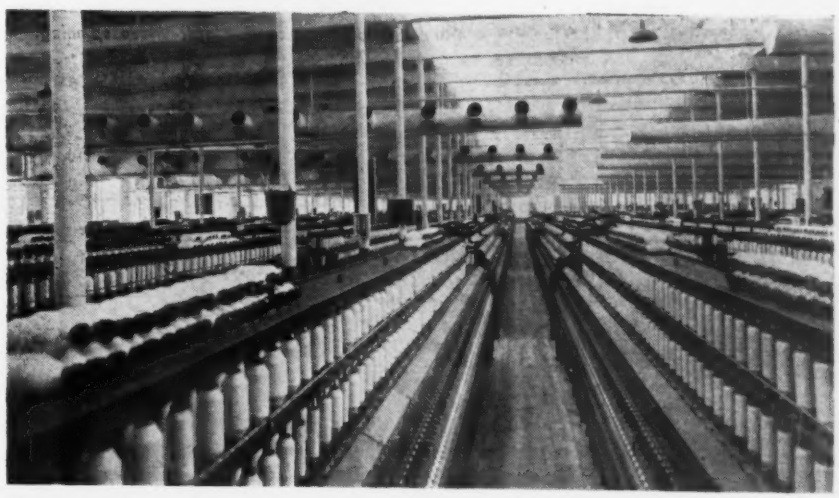
This mill, which has five Carrier central-station systems now providing evaporative cooling, plans to maintain the following relative humidity table in its various rooms when it switches to refrigeration: carding, 45%; spinning, 50 to 55%; spooling, 60 to 65%; doubling and twisting, 60 to 65%; and weaving, 78 to 80%. One central refrigeration system will supply chilled water to the five evaporative-cooling systems located on four floors. Regulation and control throughout are provided by Minneapolis-Honeywell Regulator Co. P. L. Davidson & Co. engineered the job.

The Highland Park Mill, Charlotte, N. C., which is undergoing a thorough modernization program, began to operate its evaporative cooling plant in mid-summer last year. The problem here was to eliminate harmful variations in relative humidity and to reduce heat for the sake of comfort. During the hottest days, it was found that the weave room, despite the heat created by 964 looms, was about 15° F. cooler than the outside. Moisture was kept at the selected level of 85% relative humidity.

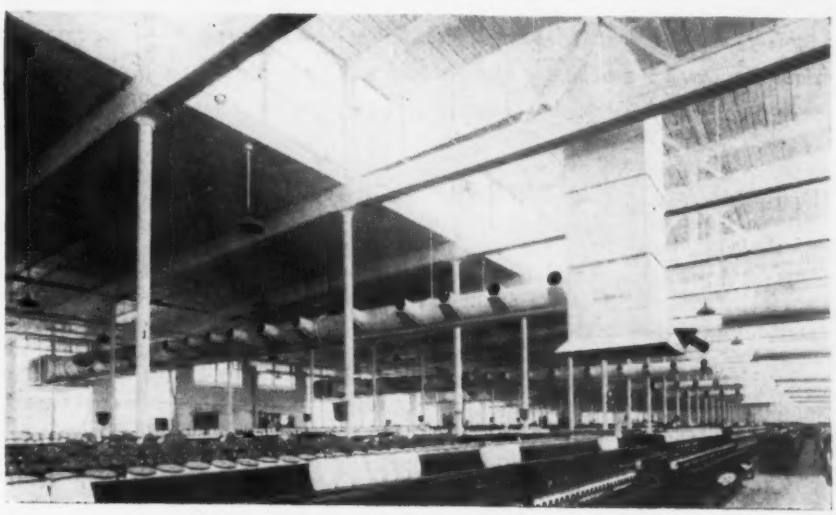
The installation presented a special problem because the plant had an uninsulated roof and extensive glass area in the weave room measuring 440 ft. by 120 ft. The automatically-controlled Carrier system handles 170,000 cfm. and 1,450 lb. of water an hour with air-operated spray nozzles; it provides the desired relative humidity and temperature at a comfortable level.

The full significance of the installation of the air-conditioning system production-wise is not known yet, but there has been marked improvement, the superintendent reports. Production from combers increased 3,800 lb. a week since the change. Highland Park is adding a weave room which will have 158 looms. A second unit of the central-station system will take care of this area.

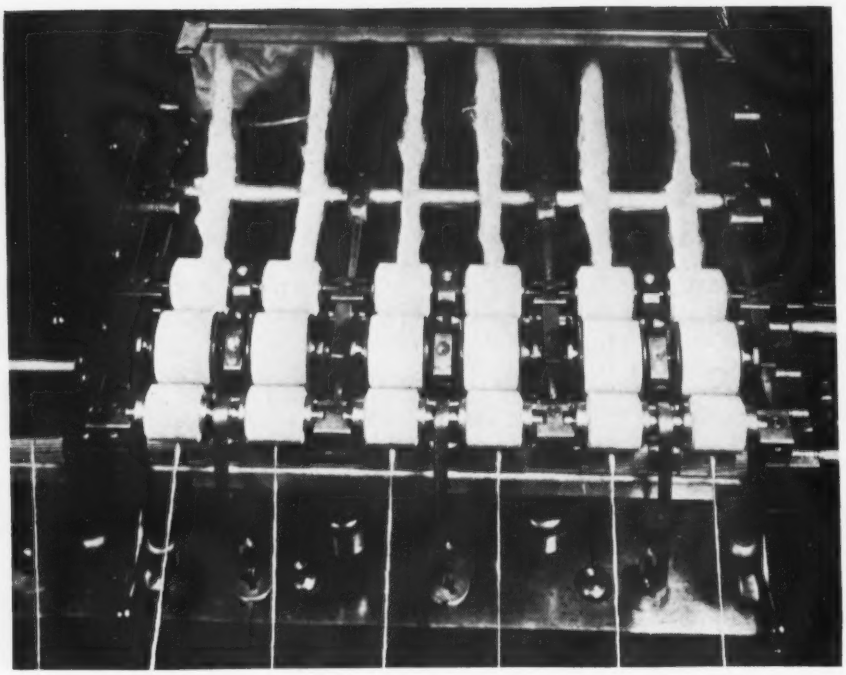
***A 2½% increase in efficiency** is reported as the result of evaporative cooling in this Southern weave room.*



***China Grove spinning room** uses Bahnson Humididucts with Minneapolis-Honeywell controls to cool the room and maintain 55% r.h.*



***Exhausts,** such as shown by arrow, are located in motor aisles, where most heat is generated. This view shows spooling, and some spinning, at China Grove.*



Long-draft roller systems give better fiber control essential to staple nylon spinning.

Processing NYLON STAPLE Requires Machinery Fitness

HIGHLIGHTS: *Nylon adds strength to blends beyond proportion of quantity used—Types blended must be selected carefully—Fundamental principles govern machinery speeds and settings—New-type picker beater recommended—Fancy roll necessary in carding—Twist multiplier lower.*

By RICHARD S. CROWSLEY

MUCH ATTENTION has lately been focused upon the use of nylon in the form of cut staple. It has been found that the fiber may be used to great advantage both by itself and as a component of a blend. Increasing use of nylon has been extended into many different and widely varied types of fabric because of its many desirable properties.

A most important characteristic of nylon is its great strength and ability to absorb rough treatment in processing without becoming weakened. The breaking strength ranges from 4.8 to 7.5 g.p.d. as compared to 2.8 to 5.0 for silk and 1.5 to 4.6 for viscose. The strength of the fiber is a great asset in any type of work where high resistance to load and fatigue is necessary, while the accompanying resiliency is very desirable in any fabric which is subjected to hard wear. In addition, nylon is washable, quick-drying, and practically impervious to mildew and to damage by moths.

The cut fiber is currently being supplied for commercial use in two deniers and in appropriate staple lengths. The finer form is 1.5 den. with a staple length of 1⅞ in., and the coarser fiber is 2 in. in length, and 3.00 den. The shorter staple length and finer fiber is most practical for the average cotton system of processing.

At the present time, the greatest use of nylon is in the making of blends. There are a large number of blends of nylon with other artificial fibers, such as acetate and viscose rayon. In addition, blends of nylon with the finer wool staples are being run very successfully. Inclusion of nylon will give to the finished fabric certain characteristics which are very desirable and which cannot be achieved in any other way. For instance, it has been found that a blend containing 20% nylon will increase the strength of the yarn far out of proportion to the actual percentage of nylon introduced. The advantage of such a blend is readily seen, for the finished fabric will still retain the characteristics of the bulk of the other fibers and yet will possess the strength which has been imparted to it by the nylon. This added strength will mean an increase in the efficiency of the various processes due to fewer stoppages caused by weak yarn.

TYPICAL BLENDS. As an example of the types of blends which have been run very successfully, one mill has blended 20% nylon with 80% wool of approximately the same staple length. The result was an increase in production due to higher efficiency and the manufacture of a very durable worsted fabric with a fine feel and hand. A blend of 50% nylon of 2-in. staple with 50% viscose rayon of 1⅞-in. staple is being run satisfactorily by a manufacturer of dress goods and is being processed on the cotton system without any major changes.

Care should be taken when deciding what type of nylon to include in the blend. The 1.5 den., 1⅞-in. nylon staple is generally best suited for processing on the cotton system, as it more closely approaches the cotton fiber in staple length and fineness. The heavier nylon fibers show a marked tendency to split when in the form of a picker lap and are likely to cause the web of the card to keep breaking down. When considering the length of staple to be used, the maximum settings of the rolls of the drawing, roving, and spinning frames may be the deciding factors. A large amount of difference in the staple length of the different fibers blended will make production of an

even yarn quite impossible, because of the varying degree of fiber control which will be asserted during drafting.

The specific gravity of the fibers which are to be blended is another important factor which must be considered if high quality work is to be attained. If the specific gravity is too widely divergent, the two fibers will tend to separate and bunch, with the lighter fibers in one place and the heavier fibers in another. The finished fabric made of yarn which is defective in this manner will be shaded and will have differences in the feel and cover.

OPENING REQUIREMENTS. The principal machines necessary for the opening of nylon are blending feeders. The feeders should have extended feed aprons at the back when blends are being run. The blend is best made by means of a sandwich mix fed into the machine by hand. A sandwich mix is formed by laying successive layers of the different fibers on the floor behind the feeder, in the proper percentages. Each time the feeder is fed, an entire cross-section of the mix should be taken up to insure that the blend is kept in the proper proportion. A low production should be maintained in order that the stock may be well opened and evenly blended.

No other opening equipment is necessary, as nylon is like all synthetic fibers in that there are not any immature fibers, dirt, or trash to be removed from the stock. The only requirement of the opening is to allow the stock to bloom and become loosened up before being fed to the picker.

After being processed through the feeders, the opened nylon may be fed directly to the pickers or it may be blown into bins for conditioning. There is not much advantage in conditioning 100% nylon, for the fibers are extremely moisture resistant and will not show an appreciable amount of regain. A blend will have to be conditioned, however, for the benefit of other fibers which are present. In the case of a blend, the other fibers will govern the length of conditioning and also the temperature and humidity.

In general, the temperature most suitable for the processing of the component parts of the blend will prove satisfactory for the nylon which is present. A temperature of around 78° F. is usually suitable for nylon either in a blend or by itself. The humidity will vary much more, and will depend upon the character of the blend. Stock 100% nylon may be processed with a relative humidity of 25% to 40%, because of the moisture resistant qualities of the fiber. For most blends a relative humidity of 58% will prove effective.

Settings

	Revolving-Flat Card (inches)	Roller-Top Card (inches)
Doffer-cylinder	0.005	0.007
Flat-cylinder	0.009	.....
Lickerin-cylinder	0.007	0.007–0.010
Feed plate-lickerin	0.022	0.007–0.022
Doffer comb-doffer	0.022	0.012–0.022
Screen, back	0.022	0.029
Screen, bottom	0.034	0.058
Screen, front	0.175	0.175
Front plate—top —bottom	0.029 0.022	....
Back plate	0.029	.....
Lickerin screen	0.034	0.029–0.034
Mote knives—top —bottom	0.022 0.017	0.022 0.017
Flat comb-flats	0.022	.....

	1st	2nd	3rd
Worker-stripper	0.010–0.017	0.010–0.017	0.010–0.017
Worker-cylinder	0.010	0.010	0.010
Stripper-cylinder	0.010	0.010	0.010

Speeds

Cylinder speed	165 rpm.
Lickerin	180 rpm.
Doffer	6½–8 rpm.
Fancy	1,600 rpm.
Workers	6–8 rpm.
Strippers	300–325 rpm.

These settings are intended as a guide only and should be used as a basis for experimentally determining speeds and settings best suited to actual blends.

PICKER NEEDED. There is a wide difference of opinion as to the best type of picker for handling nylon. This is, in part, because most mills have used the pickers which were already in use. By careful analysis and patient experimentation, each mill has discovered the fan speed and beater speeds which will give the best results for the work it is doing. While opinions may differ on the exact styles and the methods used, there may be drawn certain fundamental principles upon which most technicians agree. The nylon must be opened thoroughly in order to obtain a good lap. In this respect, the strength of nylon can be utilized most advantageously for a high beater speed, or high number of beats per inch. Thus, the stock may be well opened without the danger of weakening the fibers through rough treatment. An important factor in the successful processing of nylon is to run a light lap. The lap should be between 12 to 14 oz. per yd. for best performance in subsequent operations.

Pin beaters of the Kirschner type should replace the blade beaters in the picker. One beater will be sufficient, but two may be used if desired. Better results may be obtained through the use of a single special beater than through the use of two blade beaters. A special beater resembling the carding beater has been designed and found highly satisfactory. The only difference between this beater and the Kirschner, or carding beater, is in the shape of pins. The pins are of the same diameter most of their length and are rounded to a point with a short taper, whereas the pins of a regular carding beater have a long taper most of their length. The beater equipped with these special pins does not have the tendency to load up as does the regular type of carding beater. High fan speeds should be used, with the grid bars opened only far enough to allow a sufficient amount of air through to carry the fibers to the screen section. If the current is not strong enough, trouble will be encountered in the form of split laps.

The formation of split laps is one of the most troublesome faults that must be overcome in the picking of nylon. The use of double split-lap preventers, one under and one over the sheet of stock behind the calender rolls, will be helpful in overcoming this condition. The use of special gears between calender rolls and the calender rolls and the draw rolls of the finisher screen section will also be a big help. These special gears increase the draft between these points and have been so successful in increasing the efficient operation of the picker that they should be considered essential.

GOOD CARDING ESSENTIAL. The carding of nylon is the most difficult process in the spinning of cut staple. A great deal of research has been expended on this operation for it is an accepted fact that good yarn cannot be made from poor sliver. As a result of the efforts of many technicians, nylon can be successfully carded provided the proper equipment is used and the necessary care in operation of the card is observed.

Either the roller-top card or the revolving-flat card may be used for carding stock which does not exceed 2 in. in length. The roller-top card differs from the revolving-flat card in that the flats are replaced by three sets of workers and strippers, and the roller card is equipped with a long-nose feed plate that is expressly designed for the handling of long-staple fibers. This feed plate has a longer nose which extends further around the feed roll and maintains a better grip on the bunches of fibers as they are fed to the lickerin. Because of the tighter

(*Continued on page 212*)

Readjustment Made In KNIT GOODS

HIGHLIGHTS: *General textile situation has recently taken a turn for the better—All knit-goods divisions had some shake-up — Fabrics for women's-wear down, for men's-wear up—Hosiery goes its own way —Increase in tricot—Production basis now is replacement.*

By SANFORD S. PARKER
Dept. of Economics, McGraw-Hill

TEXTILE AND APPAREL INDUSTRIES seem to have pulled out of the downswing that developed last spring. It's too early to tell if the dip in textiles has been brought to an end because so much of the general outlook for business depends on near-unpredictables—the overseas-aid program and federal-tax action, for example. But there's no doubt things have taken a turn for the better of late, in textiles and apparel specifically and in business generally.

Recent months have seen so many difficulties for the industry because 1947 has been a year of readjustment. Early postwar months of 1946 were typified by distortions in prices because of OPA ceilings, in demand due to war-built backlogs, and in supplies on account of war-enforced curtailments. However, output and prices in some lines have moved up and in others down; and recent signs point to a successful conclusion of the corrective movement.

Nowhere has the diverse character of those readjustments been brought out so clearly as in the case—or several cases—of knitwear.

TREND VARIES. If you check down the tables on these pages comparing production this year with last, you will find divergent trends no matter how you break the industry down—by type of product, such as outerwear, underwear, or hosiery; by men's-wear as against women's-wear; or by fiber used, such as cotton, rayon, and wool. This plainly shows the many readjustments that had to be made.

Yet it's fairly simple to run through and catalog the main changes shown by the output statistics and to bring those situations up to date. Partly that's because knit goods follow certain patterns general to textiles and apparel—to which, of course, the usual exceptions must be noted.

COTTON UP. One of those patterns is that cotton products made the biggest gains over 1946, while soft woolen goods were overproduced early and came down this year. Hence cotton knit goods for underwear is up considerably from 1946, woolen knit goods for outerwear off sharply.

Along another pattern, knit goods for women's-wear, which soared ahead of demand early in 1946, dropped steeply this year, while knit goods for men's-wear still was catching up with ex-servicemen's demand, and jumped this year. This divergence emerges clearly within underwear and certain types of fine outerwear, like "T" shirts made by underwear as well as outerwear mills. Output for the male market is up, while that for the fairer sex is down. In woolen knitwear like sweaters, outputs of both men's and

Production of Knit Cloth for Sale
(Thousands of pounds)

	First Quarter of 1947	Percent Change From First Quarter of 1946
Knit Cloth for Sale—Total	31,617.2	−14.2%
Warp-Knit Fabric—Total	9,312.0	+11.7
Undergarments tabric	3,117.7	+26.0
Dress and suiting tabric	4,055.1	+6.7
Glove tabric	740.2	+25.2
All other	1,399.0	−5.0
Circular-Knit Fabric—Total	22,305.2	−21.7
Under- and nightwear tabric	7,541.6	+22.8
Over, topcoating, ski and snow tabric	2,691.1	−67.6
Dress and suit tabric	1,118.7	−65.2
Glove and mitten tabric	3,363.5	+8.3
All other	7,590.3	−1.7

Source: Department of Commerce.

Production of Knit Underwear and Nightwear
(Thousands of dozens)

	First Four Months of 1947	Percent Change From First Four Months of 1946
Knit Underwear and Nightwear—Total	17,256	−13.6%
Knit Rayon Underwear and Nightwear—Total	4,967	−17.0
Made from circular-knit tubing	3,058	−23.9
Women's and misses'	2,742	−20.9
Made from warp-knit tabrics	1,908	+0.2
Woman's and misses'	1,799	−0.5
Knit Cotton and / or Wool and Other Knit Underwear and Nightwear—Total	12,288	−12.2
Unionsuits—Total	1,229	+11.5
Undershirts (men's and boys')	3,920	+2.8
Drawers (men's and boys')	392	−6.9
Shorts, briefs, vests, and panties	6,167	−23.5
Nightwear and other knitwear	581	0

Source: Department of Commerce.

women's are down, the latter more drastically. Major exception is hosiery, in which men's-socks production fell from 1946 while women's seamless and full-fashioned stockings both rose.

Net result is that over-all underwear-goods output this year is about even with last; the same is true of hosiery, while outerwear as a group is off.

Here's how you can see a few of these larger trends, as a guide to the more detailed tables.

Percent Change in Output, 1947 from 1946

Knit Underwear

(Materials consumed) .... Cotton +0.7%
Rayon −6.5%

(Garments produced) .... Men's +3.5%
Women's −21.0%

Knit Outerwear

(Materials consumed) .... Cotton −25.5%
Woolen −33.2%

(Garments produced) .... Men's −4.2%
Women's −60.7%

Hosiery

(Shipments) .... Men's −3.9%
Women's +8.5%

You can even link up the changes by fiber with those by sex. More rayon than cotton is used for women's knit underwear; cotton exceeds rayon in men's knitwear. Hence you find cotton goods and men's-wear both up, rayon cloth and women's-wear down.

Materials Consumed in Knitwear Industry

(Thousands of pounds)

	First Quarter of 1947	Percent Change From First Quarter of 1946
In Knit-Underwear Division	44,227	−1.3%
Yarns Consumed—Total	35,856	+4.4
All cotton	31,067	+6.2
All rayon	2,046	−5.9
All wool	237	+0.9
Cotton-wool mixtures and blends	2,145	−1.5
Other mixtures and blends	361	+116.2
Knit Fabrics Sold—Total	8,371	−19.9
All cotton	1,943	−44.8
All rayon	6,297	−6.7
All wool, mixtures, and blends	131	−25.6
In Knit-Outerwear Division	17,092	−32.5
Yarns Consumed—Total	15,127	−30.5
All cotton	4,898	−18.9
All rayon	491	−36.3
All wool	8,907	−32.6
Cotton-wool mixtures and blends	386	−67.8
Other mixtures and blends	445	−18.1
Knit Fabrics Sold—Total	1,965	−44.6
All cotton	1,645	−40.0
All rayon	105	−55.9
All wool	113	−61.6
Cotton-wool mixtures	40	−49.4
Other mixtures and blends	62	−68.1

Source: Department of Commerce.

MORE TRICOT. Another main trend within the knitwear industry is the growing importance of warp-knit products, made principally on the increasingly used tricot machines.

The shift is apparent from data on output of knit cloth for sale (see tables). Statistics on *total* production by both methods are not to be had, inasmuch as knit cloth cut by textile mills themselves is not reported.

Warp-knit production has done better than circular-knit on all counts. Circular-knit machines have not all

(Continued on page 218)

Hosiery Shipments

(Dozens)

	First Five Months of 1947	Percent Change From First Five Months of 1946
All Types—Total	62,437,741	−1.9%
Women's Full-Fashioned—Total	16,536,254	+5.5
All-silk and silk leg	1,055,185	+1969.0
All-nylon and nylon leg	12,474,439	+25.3
All-rayon and rayon leg	2,861,260	−47.8
All other	145,370	−19.2
Women's Seamless—Total	4,683,554	+20.9
All-silk and silk leg	1,261	
All-nylon and nylon leg	1,465,561	+60.9
All-rayon and rayon leg	1,651,913	+4.0
All other	1,564,819	+13.8
Men's Half-Hose and Slack Socks	19,097,883	−3.4
Crew and athletic socks	2,029,830	−8.5
Bundle goods	2,529,941	−21.4
Children's and infants' (except. anklets)	3,237,164	−0.7
Anklets	14,323,115	−8.3

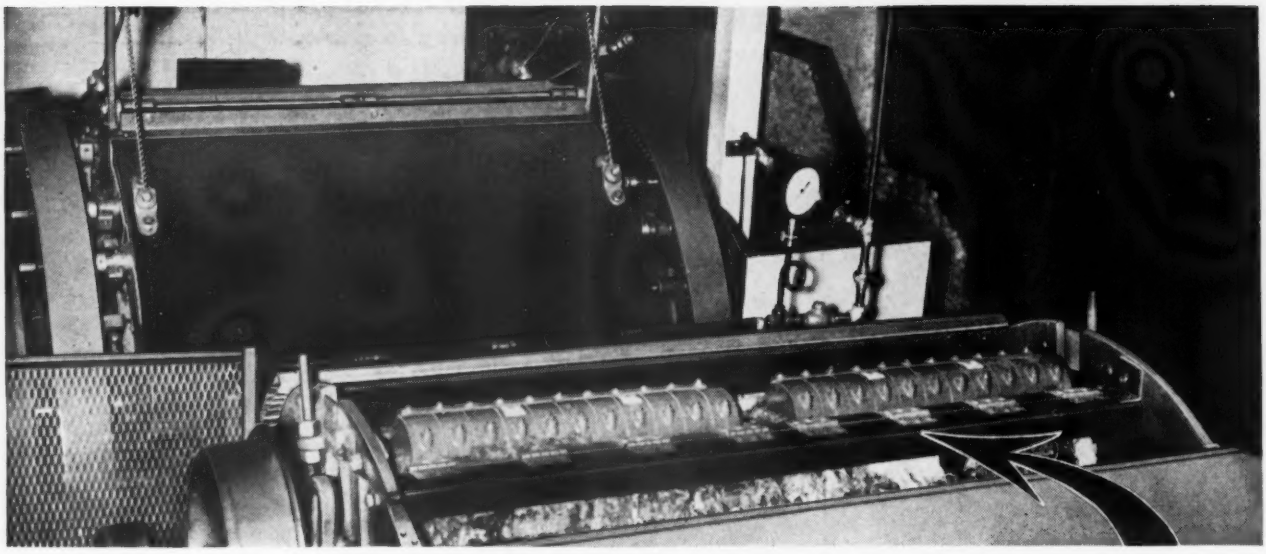
Source: National Association of Hosiery Manufacturers.

Knit Outerwear Production

(Thousands of dozens)

	First Quarter of 1947	Percent Change From First Quarter of 1946
Sweaters, Jackets, Jerseys and Pullovers	1,494	−40.2%
Men's and boys'	589	−2.45
Women's, misses', and girls'	383	−64.6
Children's and infant's	519	−18.5
Polo, "T", Basque, Sweat and Other Shirts	897	−29.2
Men's and boys'	535	−11.1
Women's, misses', and girls'	52	−69.1
Children's and infants'	305	−38.5
Bathing Suits and Trunks	255	−22.5
Men's and boys'	130	−31.2
Women's, misses' and girls'	82	+32.3
Children's	45	−41.6
Outerwear Made in Underwear Firms		
Polo, Tennis, "T", etc.	1,141	+3.4
Men's and boys'	947	+24.6
Women's, misses', and girls'	44	−61.4
Children's and infants'	150	−34.8

Source: Department of Commerce.



Arrow shows permanent magnet installed on a wool picker feeder.

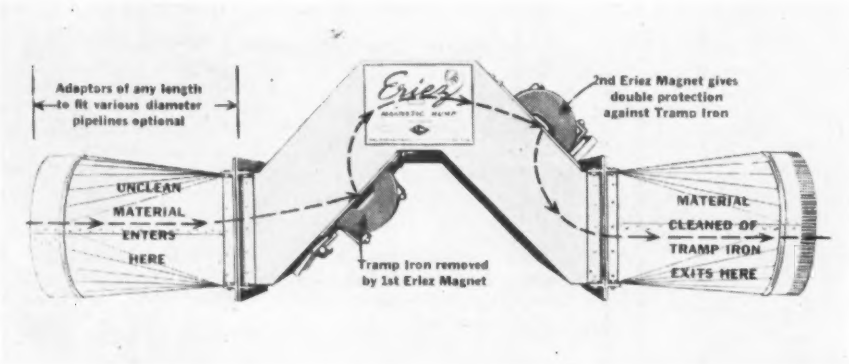
PERMANENT MAGNETS
Reduce Fires and Damage

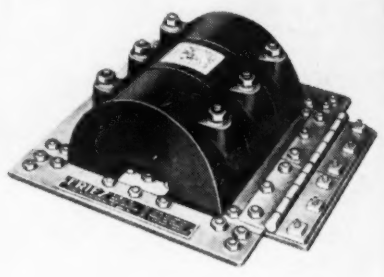
HIGHLIGHTS: *"Tramp iron" in stock called prime cause of fires, also damages equipment—Plant men can easily install protective equipment—Insurance companies endorse non-electric magnets.*

WHEN MOST TEXTILE PROCESSORS consider the installation of magnetic protection they immediately visualize a large, heavy machine running into hundreds of dollars of expense both in initial cost and upkeep for removing tramp iron contamination in processing materials—all of this to cut down the number of fires caused from tramp-iron sparks. The truth is that, since the development of Alnico-alloy permanent magnetic separators, for a few hundred dollars' initial expense and a few hours' time of a plant's maintenance men, simple and efficient protection can be installed which will not only cut down fire losses, but protect processing machinery against mechanical damage.

At this early point it must be pointed out that proper placement of magnets is essential to the success of any magnetic-separator installation. The world's strongest magnet will not remove all tramp iron from a textile line if improperly installed.

The mechanical damage done to opening equipment and other textile machines by "tramp iron" has not been given so much consideration as fires; however, there are few machines previous to spinning that are not damaged in some way by the iron and steel trash in the material being processed. Even though the damage done in one day or one month is not too serious in beaters, pickers, and other similar openers, the cumulative wear and tear over a longer period is quite evident upon inspection and well worth preventing. Such machines as burr pickers, cards, garnetts, and shredders


Adaptors of any length to fit various diameter pipelines optional
Eriez
2nd Eriez Magnet gives double protection against Tramp Iron
UNCLEAN MATERIAL ENTERS HERE
Tramp Iron removed by 1st Eriez Magnet
MATERIAL CLEANED OF TRAMP IRON EXITS HERE



The typical non-electric permanent magnetic separator (shown at right) has many uses such as in the Eriez magnetic hump.

are more easily damaged and show the effect very quickly. Certain rolls, such as burr crushers and rubber squeeze rolls are marked and cut by pieces of steel entering the nip with the stock.

By allowing tramp iron to stay in combustible fibers passing through opening equipment, a manufacturer leaves himself open to the danger of fire. It is inevitable that the loose metal will strike a spark when it hits a beater pick or gets caught between cylinder teeth. The result, in the presence of combustible fibers and air currents, is a flash fire, well-known in cotton-mill opener and picker rooms and in garnett rooms.

Practically all textile fibers before being carded or garnetted contain some amount of metal. Iron and steel are the most common and most injurious to machines, and present the most dangerous fire hazard. Waste fibers and reworked materials have the most metal in them, therefore plants using them have the greatest need for magnetic separators. New stock does not have a great quantity of metal in it, but even small amounts cause trouble, particularly if the fiber is inflammable or if the metal gets into a card or garnett.

FIRE SOURCE. The engineering departments of insurance companies have stated that over 78% of reported opening-room fires are the result of the presence of tramp iron in materials.

The motley collection of metals seen in the illustration consists of bale buckles, nails, hooks, tag clips, short pieces of bale ties, buttons, bottle caps, nuts, bolts, washers, many pieces of fine wire, and small pieces of other metals. Sometimes, steel parts work loose on a manufacturer's own processing equipment, causing serious damage if magnetic protection has not been provided.

Textile fires are, in spite of the complete coverage of the actual loss by the insurance company which carries the risk, a source of trouble and annoyance which even the most generous insurance adjusters cannot always pay off. There is, for example, the lost production; the nasty job of mopping up and drying off motors, conveying equipment, and machinery; and the trouble and inconvenience following the usual starting-up adjustments after the fire.

The following is quoted from page 7 of the *Saco-Lowell Bulletin* for March, 1946:

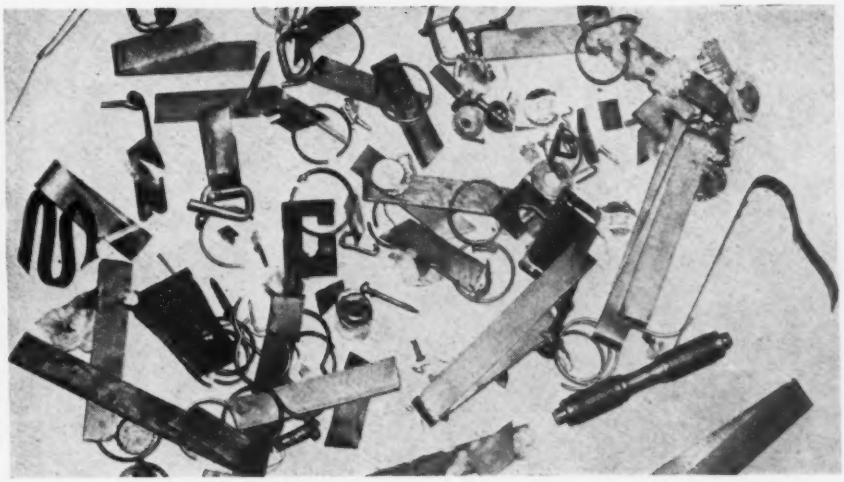
"For many years the problem of the fire caused by the tramp iron has been under the thoughtful consideration of our engineers as well as those on the inspection staff of the underwriters who specialize in insurance of cotton spinning mills. In the course of these years of research many seemingly effective devices and schemes have been tested in the laboratory as well as in the mill. While some of the projects had merit, there was always some weakness which in time had an adverse effect as far as general adoption was concerned. For example, one of the earlier methods consisted in the use of a trap at the end of the feed table. While this trap was effective in removing the heavier pieces of tramp iron, it was possible for a smaller piece to be carried along in the core of a large bunch of cotton.

"The electromagnet was also tried. While the results are satisfactory as far as the extraction of the tramp iron is concerned, there are many mills which are reluctant to install this type of magnet. Their objections are based on the high cost of the unit, the difficulty of installation, the need for rectifiers and wiring, and need for constant inspection of the rectifier and wiring.

"The development of the Alnico permanent non-electric magnet offered a favorable solution to the problem which our engineers were studying. General Electric Co., which owns the Alnico patent, reports that the normal life of the Alnico magnet is in excess of ten years, that there is no danger the magnet will lose its power unless it is subject to excessive shocks or heat, or there is accidental contact with other magnetic fields. Should there be a loss of magnetism, the unit can be restored by recharging by the manufacturer in a matter of seconds."

SERIES OF MAGNETS. The non-electric magnet consists of a series of Alnico magnet castings mounted on alloy steel plates and surrounded by an in-

(*Continued on page 208*)



Examples of "tramp iron" taken out of stock by permanent-magnet separator.

Standards* for Processing Fibers in Gravity-Flow Installations

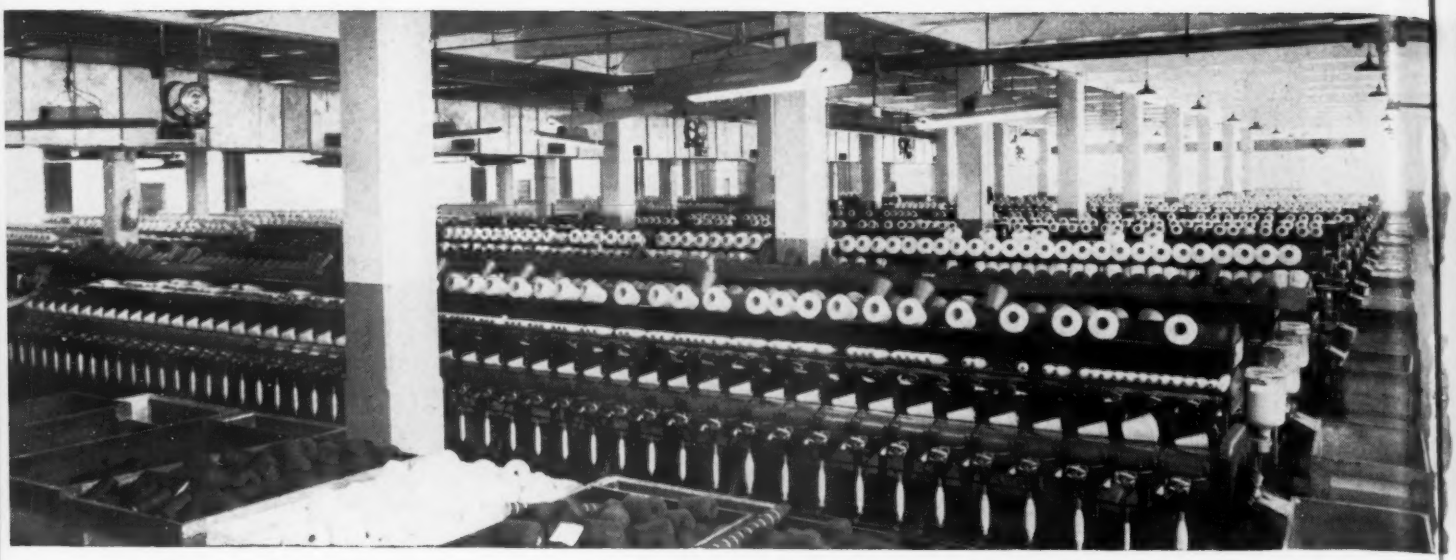
The recommendations below are based on the premise that all material will slide over the full length of all magnets. Width of material flow, maximum depth of material, and angle of magnet installation determine magnet requirements.

Depth of material flow	*If angle of decline from horizontal is:*	*Type of magnets required*	*If angle of decline from horizontal is:*	*Type of magnets required*
2 in.	45° or less	Standard	45° to 60°	Jumbo
3 in.	45° or less	Jumbo	45° to 60°	2 Standards
4 in.	45° or less	2 Jumbos	45° to 60°	3 Jumbos

Materials listed in groups in order of ease of cleaning are:

GROUP I - Cotton, light fibers, feathers, kapok, etc.
GROUP II - Scoured wool, hair, hemp, waste, etc.
GROUP III - Virgin wool, rags, worsted yarn, matted material, sisal, etc.

* *Standards are those developed by Eriez Mfg. Co.*



***The winder room** at Dixie Mercerizing Co. is equipped with Model 102 Foster winders. Light, cleanliness, and filtered air—all indicated in this photograph—are important considerations in maintaining the high level of quality demanded by this company's products. The window openings are closed with glass blocks (see next picture), and fluorescent lights are arranged to the best advantage over working areas that are critical. The overhead duct down the middle of the room is the outlet for filtered air from the Precipitrons.*

Cleanliness Is Essential to

***HIGHLIGHTS:** Building, machinery, and personnel are regarded as factors that influence yarn quality at Dixie Mercerizing Co., Chattanooga, Tenn.—Seasonal atmospheric conditions are eliminated by electrostatic cleaning of air—All handlers of Dixie yarn are trained in cleanliness for quality.*

By P. M. THOMAS
Associate Editor, TEXTILE WORLD

THAT MANY ELEMENTS CONTRIBUTE to the success of processing top-quality cotton yarn is recognized by Dixie Mercerizing Co., Chattanooga, Tenn. Such elements as the physical conditions of the plant and machinery, worker morale, and the manufacturing system employed have been given careful attention by this mill in order to produce yarn to meet the most rigid specifications in the industry.

Measures taken in the winder room of the mercerizing plant are indicative of the care with which processing is done in all the various departments of the spinning mill at Lupton City and the finishing plant in Chattanooga. The best engineering skill available has been utilized to make this winder room one of the most modern that can be found.

Since quality of yarn is correlated with cleanliness, steps were taken to eliminate poor-quality yarn from causes uncontrollable by the personnel. Outside air, particularly during the winter months, had a direct effect upon the amount of soiled yarn.

PRECIPITRON UNITS INSTALLED. To correct air conditions window openings were blocked up with glass and an adequate air-conditioning system was installed. Several of the electrostatic units were installed in the plant, and 64,000 cu. ft. of filtered air per minute is blown into the winder room. This amount of air is approximately four times as much cleaned air as is actually needed in this department.

An overhead duct extends down the middle of the room, and filtered air from Precipitrons is exhausted through the duct and into the room. Humidification is obtained by humidifying units suspended near each side of the duct.

The mill's experience with this system has been quite satisfactory. It reports that the Precipitrons have materially aided in making more pleasant and healthful working conditions and in obtaining a cleaner and more uniform product.

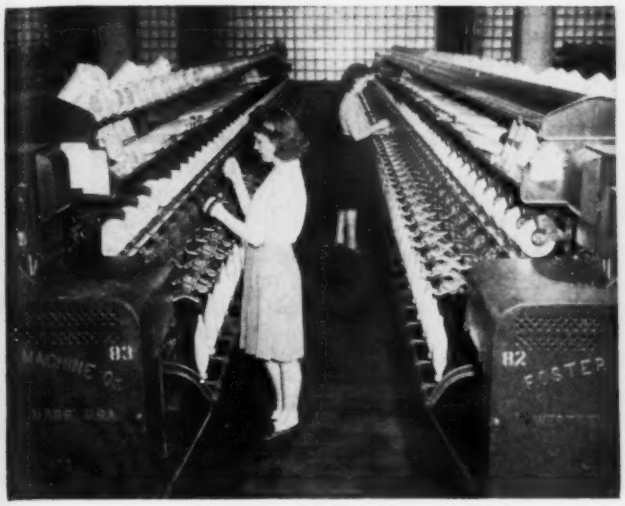
Adequate lighting was also found to be an important factor in manufacturing quality yarn. Much of the mill's production is in fine numbers, up to 80s; and winding these fine numbers requires good light. Besides arranging fluorescent lights to the best advantage over critical working areas, the mill also keeps walls and overhead of the winder room well painted with colors of high light-reflective qualities.

Machinery is maintained in good physical condition. The room is equipped with Model 102 Foster winders, operating at approximately 500 yd. per min.

Boyce weaver's knotters are used by winder operators. Because a wide range of yarn sizes are run, different models of knotters, each suited to certain ranges of yarn counts, are used.

The largest practicable supply bobbins are used by the Dixie mill so that there will be a minimum of knots in the finished cone. Supply packages are prepared for the winders on Whitin long-chain quillers.

Cleanliness is stressed also to yarn handlers, oilers, and fixers. Close supervision is maintained to prevent such common defects as lint bunches, wild



***All winder operators** are required to use Boyce knotters, which tie weaver's knots, placing the two tails of yarn on opposite sides of the knot. Because of the range of yarn sizes run, different models of knotters are used for different counts of yarn in order to tie knots that are as small as practicable on each size of yarn. Note the large supply bobbins.*

***Supply packages** of yarn are prepared for the winders on these Whitin long-chain quillers. The quillers have 378 spindles each and operate at speeds best suited to the particular yarn. Quality standards at this operation are the same as of the winding process, and the same degree of cleanliness is insisted upon. The largest practicable package is wound to give a minimum of knots in the finished cone.*

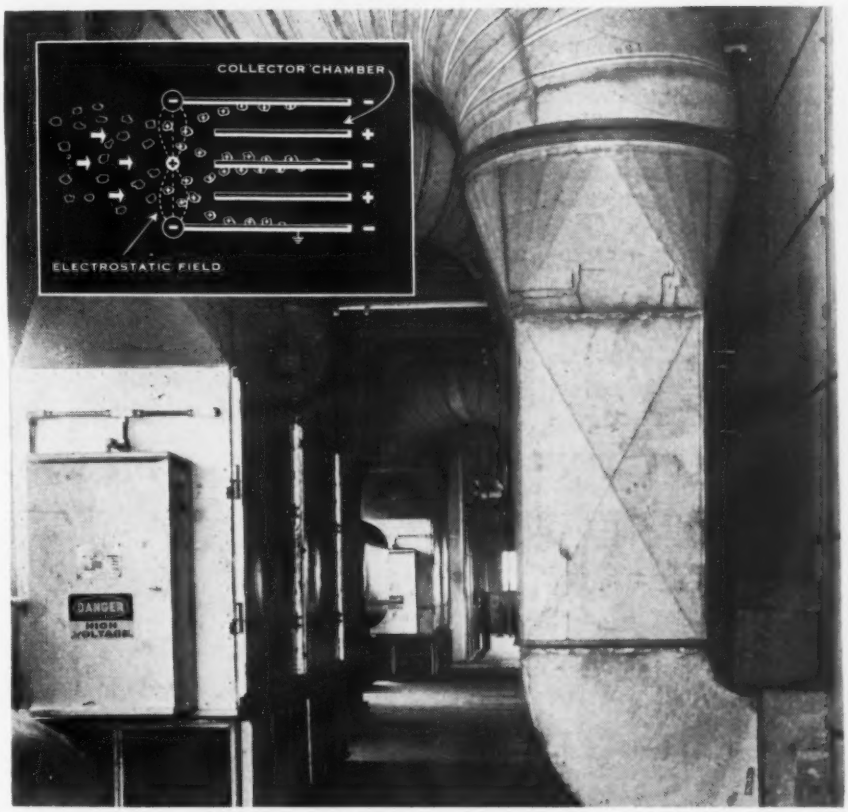
to QUALITY WINDING

yarn, oil spots, and damage caused by oily or greasy hands.

Special emphasis is placed upon clean floors, boxes, yarn racks, etc. Much time and effort have gone, and continue to go, into training indirect-labor workers in the fine points of cleanliness for yarn quality; the mill is convinced that it is effort well spent.

EMPLOYEE MORALE BOOSTED. Worker morale is aided by the operation of a plant cafeteria and by musical programs, in addition to the physical improvements that have been made in working conditions. Well-prepared, wholesome food is available at reasonable prices during the designated lunch periods. This facility is so popular with the employees that practically all of them take advantage of it. The mill is of the opinion that the operation of the cafeteria does much to straighten out the up-and-down production curves that normally result from worker fatigue.

A special studio has been built to provide music for the workers. The practice usually is to pipe in to the winder room, and the other departments of the finishing plant, a 15-min. program of music at about 1½-hr. intervals. An RCA system is used; and it is available for paging, general announcements, radio rebroadcasting, and record playing.



***Several of these Westinghouse Precipitrons** are used by the finishing plant. Inset shows the principle upon which the electrostatic air cleaner works. A high-voltage wire creates an electrostatic field at the front of the Precipitron cell. As dust and dirt particles enter this field, they are electrically charged. These charged particles are drawn to and precipitated on the vertical collector plates in the collector chamber. These units provide the winder room alone with 64,000 cu. ft. of filtered air per minute.*

Vat and Azoic Colors Preferred for PRINTING

HIGHLIGHTS: *Function of printing gums two-fold — Azoic colors diazotized at 5° C.—Careful preparation and application required — Vat colors have greatest fastness— Aftertreatment necessary for brightness.*

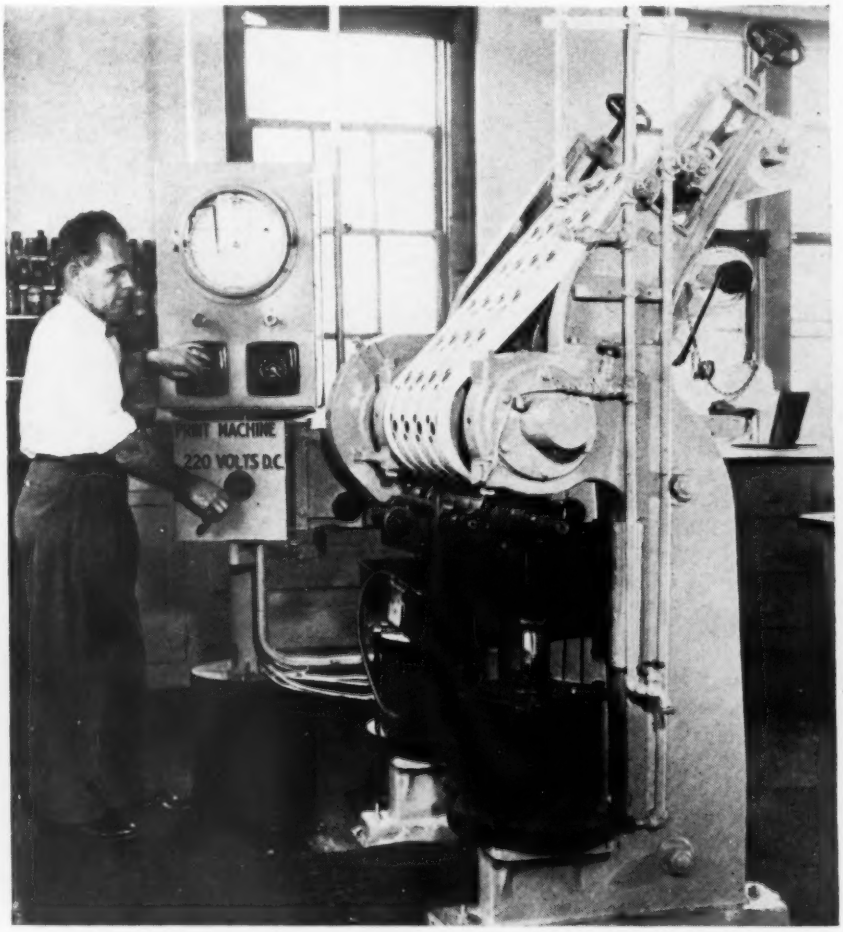
By Dr. ARTHUR K. SAVILLE
Du Pont Organic Chemicals Dept., Dyestuffs Div.

IN THE PAST FEW YEARS, the development of "color-consciousness" in the consumer has accelerated the trend toward the use of faster colors by both dyers and printers of textiles. In the more durable articles and fabrics of high styling, the use of vat, azoic, and soluble vat colors has increased; and the fugitive basic, acid, and direct colors have been relegated to novelty styles in which brightness of shade is the main requirement. This trend constitutes a challenge to the textile printer and the dyestuff manufacturer to widen the scope of the application of fast colors and develop economical and technically improved processes for their application.

For the application of these vat and azoic colors, careful preparation of fabric, printing thickeners, and colors, and close attention to details of application are required.

PREPARATION OF MATERIALS. Cloth is prepared for printing in much the same manner as for dyeing operations. It must be "boiled out" or bleached to remove natural impurities, as well as oils and sizes which have been added to facilitate spinning and weaving. Cotton is usually bleached, sheared, and may be mercerized before printing. The ultimate aim in cloth preparation is to secure the maximum fabric absorbency and purity to insure clear register of the color in its maximum clarity and brilliance. To this end, the cloth is boiled with alkali in kiers, treated with acids to decompose soaps formed by the fatty matter in the cloth, and finally treated with oxidizing agents to remove the last traces of the natural color of the fiber. The goods are washed between each stage of the operation and are finally very thoroughly washed to leave the cloth as pure as possible.

Printing has often been described as local dyeing. A print paste is in reality a modified, local dyebath which is applied to the cloth instead of placing the cloth in the dyebath as in dyeing. Therefore, the functions of the printing gums or thickeners are two-fold: (1) to serve as convenient carriers for the color from the engraved roller to the fabric, and (2) to allow dyeing conditions to be produced in the printed portions at some time during processing while preventing mark-off or flushing of the color to the unprinted portions. The thickener must be cheap, must have film-forming properties to hold the color on the fiber, and it must be elastic when dry so that it does not dust. Aqueous solutions of the thickener must be resistant to acids and alkalis, and small quantities should produce viscous solutions with sufficient body to fill the engraving and to register on the cloth. On steaming, the thickener should readily absorb moisture and form a minute dyebath heated by the steam atmosphere. This hydroscopicity should not be too great, otherwise condensation will be excessive and bleeding of the dyestuffs and chemicals from the confines of the print will occur because of the inability of the paste to hold the moisture. On the other hand, sufficient condensation for dyeing is necessary. In the slight



***A laboratory print machine** is a "must" for any large print works. Colors can be checked for shade and money value, shades can be matched, and thickness checked for "mark" and money value without taking up time of production equipment.*

amount of liquid phase formed, it is not possible for all the color to dissolve. Dyestuff which is dissolved should be rapidly absorbed by the fiber, allowing further color solution to diffuse from the paste until all the color is combined with the cloth. Retention of color by the gum will result in poor color value.

THREE THICKENERS USED. While no gum or thickener ideally fulfills all of these requirements, carefully chosen natural gums and starches are the almost universal basis for thickening agents used by textile printers. By far the greatest proportion of present-day printing in the United States is done with three types of thickeners: starch (usually wheat and corn starch), British gum, and prepared textile gums. Smaller quantities of gum tragacanth and gum senegal are used for specific purposes.

Among the most popular printing thickeners are the prepared textile gums, which are mixtures of varying proportions of naturally occurring starches and gums which, in the course of preparation, are pressure-cooked and solubilized. In contrast to natural gums, which may vary considerably in quality and properties from time to time, control of quality in these commercial preparations is insured. Gum tragacanth is easily removed by washing, even in cold water; but it is expensive and yields poor strength and mark. Gum senegal, on the other hand, gives sharp prints of relatively poor color value; and it is easy to remove during finishing. Locust-bean gum and methyl-cellulose thickeners are sensitive to alkali and cannot be used when an alkaline printing paste is to be employed.

It has been stated that it is bad practice to mix thickeners; nevertheless, such mixtures are regularly used with great success. Combinations of thickening agents are made by the individual print works and are used where particular thickening and printing properties are required for a given process, fiber, or color.

AZOIC COLORS. The azoic colors are marketed in the form of the azoic dye components (bases and coupling components) which, by various means, are combined on the fiber to produce the finished dyestuff. Depending on their mode of application, they may be divided into two classes: (1) bases and stabilized diazo salts for printing on cloth prepared with the coupling component, and (2) the "Diagen" and "Rapidogen" colors which are mixtures of stabilized diazo-imino compounds and coupling components.

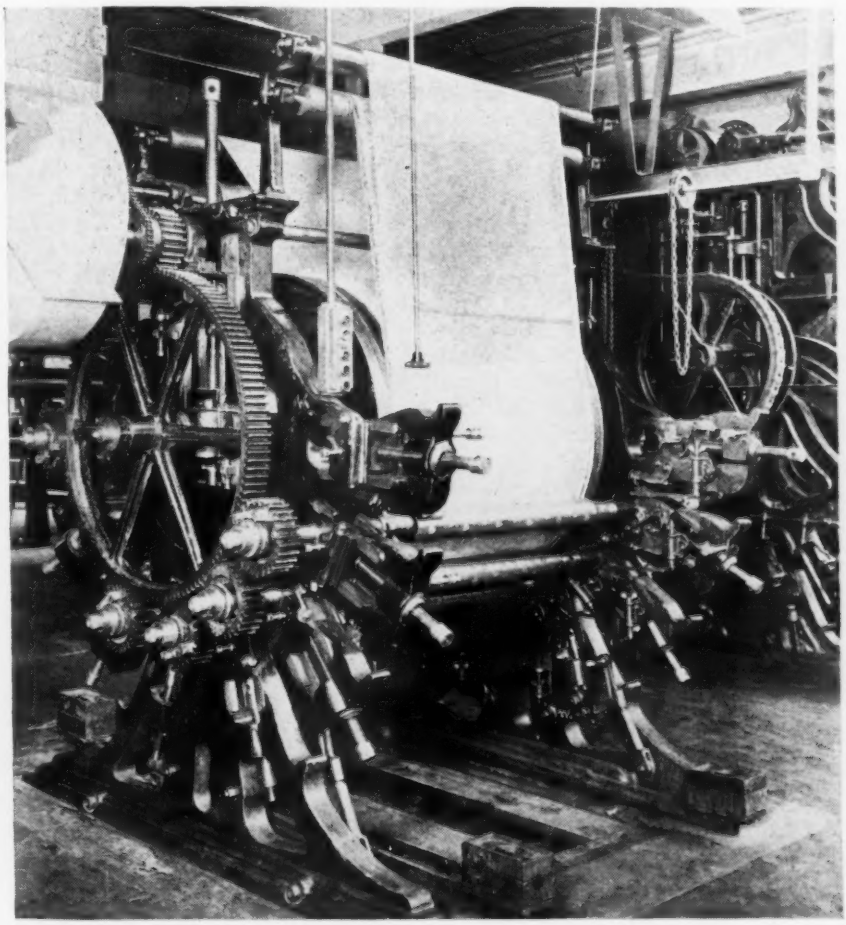
Naphthol or azoic-color bases are prepared for printing by diazotizing with an excess of sodium nitrite and hydrochloric acid, and then the solution is buffered by the addition of sodium acetate. Since the diazo compounds are unstable, the reaction is carried out at 5° C., and the solution is kept cool at all times. Thickener, usually a starch-and-gum-tragacanth mixture, is added; and the resulting paste is printed on goods which have been previously impregnated with a solution of the Naphthol coupling component. The coupling components are derivatives of beta-hydroxynaphthoic acid and related compounds.

The azoic color is formed instantaneously as the diazo printing paste is transferred from the roller engraving to the cloth. The printed goods are then dried and soaped to secure the proper shade and fastness properties. If the temperature of the printing paste is permitted to rise considerably above 5° C., or if it is kept for any length of time at room temperature, the diazotized base decomposes to a tarry mass.

The diazo salts were developed sometime after the introduction of the bases. The new products consist of stabilized salt complexes of the diazotized bases in the form of soluble powders which, immediately after solution in water, release the active diazo compound and thus eliminate the requirement for diazotizing the bases prior to printing. The diazo salt solutions are prepared simply by mixing the salt with warm water, adding cold water, and, when solution is complete, making up to the required volume with the printing thickener.

BALANCE IMPORTANT. One of the most important factors in the printing of diazo solutions on goods prepared with the Naphthol coupling component is the observance of the proper balance between the quantity of Naphthol on the goods and the concentration of diazo compound in the printing paste. An excess of the diazo compound must be avoided because in subsequent processing it probably will be converted to a tarry phenolic body

(Continued on page 190)



***Roller printing consists** of the application of color paste to the fabric surface by means of engraved copper rollers and is, in effect, local dyeing. The carrier for the dye, as well as the class of dyestuffs, must be carefully considered.*

Many Factors Are Involved In PICKER-STICK Economy

HIGHLIGHTS: *Laminated wood-and-plastic picker sticks are more economical than hickory sticks at loom speeds up to 120 picks per min.—Accurate loom adjustments prolong the life of picker sticks—Effect on other loom parts should be a factor in the choice of sticks.*

By H. E. WENRICH

THE IMPORTANCE OF PICKER STICKS as a factor that influences weave-room quality, production, and economy is generally recognized; and it is obvious that if a new kind of stick is developed that will make savings possible, without impairing quality or production, it would become a "must" on any purchase-order sheet.

Weave-room tests of laminated wood-and-plastic picker sticks, developed during the war, and standard hickory sticks reveal many interesting data and pose several important questions.

Fig. 1. Rough places that develop on laminated picker sticks during operation may be corrected by grinding down the rough spot, as at a, with an emery-paper disk. To make the grinding less harsh, a small amount of oil should be put on the emery. If similar damage occurs again and deep grinding must be done, as at b, it is best to discard the stick.

From the standpoint of economy, the use of hickory sticks seems logical when only the purchase prices of the two types of sticks are compared. The laminated stick may cost several times as much as a hickory stick for a given model of loom; it must be machined with special tools in order to obtain a smooth surface.

However, the initial cost of picker sticks should not be the deciding factor in the choice of sticks. The operating life of the stick itself, its effect upon the life of other loom parts, and its contribution to loss of production time must also be considered as factors of picker-stick economy.

OPERATING RECORDS. Experience seems to indicate that each of the two types of sticks has a field where it can be used advantageously, but the sticks should not be used interchangeably on all models of looms. Operating records of other loom parts—such as pickers, bumper straps, check straps, sweep sticks, picker-shaft arms, etc.—and of cloth damages—such as bad edges, rough cloth, etc.—indicate that laminated sticks can be used to advantage on slow-running looms (up to 120 picks per min.). On narrow, high-speed looms, the hickory stick can usually be operated more economically.

The operation of picker sticks, laminated or hickory, can be made considerably more economical by good loomfixing. A few pointers that fixers would do well to investigate follow.

Under no conditions should a new laminated picker stick be placed against a sanding disk. Occasionally, it is good practice to sand down the corners or sharp ends of a hickory stick in order to prolong the life of the stick or to prevent injury to someone's hand; but this practice, if applied to a new laminated stick, does more harm than good to the stick.

Sometimes a laminated stick may be damaged while in operation, as shown on the piece of stick at a in Fig. 1. As soon as such a condition is noticed, the stick should be removed from the loom and sanded smooth. A small amount of oil should be placed on the emery-paper disk before the grinding is begun. The oil will make the grinding less harsh and aid in obtaining a polished surface.

If damage occurs at the same point the second time and rather deep grinding must be done, *b* in Fig. 1, it is best to discard the stick.

LOOM PICKERS. Rawhide or composition pickers will wear, although the latter type usually gives longer and better service than the former when used with laminated sticks. Frequently, a picker will break or wear until the metal rivets are exposed to the picker stick, *a* and *b* in Fig. 2. If the condition is not noticed soon after it occurs, the stick will be damaged. When a picker or a stick is replaced, it is important that the other be closely inspected. If there is a rough spot on the part, it should be smoothed down or the part discarded.

A rough picker stick, even an expensive laminated stick, soon offsets its value if it is permitted to damage a number of pickers. Likewise, a picker more than offsets its value if it breaks only one stick.

There is always a reason, of course, for excessive wear at the picker block. Some of the causes of such wear are too heavy a pick, too heavy a shuttle, choked pick, improper forward-motion check, excessive loom speed, etc. Unless these causes can be found and corrected, a fixer will not have much success in running plywood picker sticks.

Good-wearing hickory sticks can be judged with reasonable accuracy by an experienced fixer. Such defects as warped, rough, cracked, or knotty sticks are readily discernible. Of equal importance to stick life is the degree

Fig. 2. Damage either to a loom picker or picker stick can easily and quickly affect the other. Picker **a** *was broken and one of its rivets exposed to the stick during its first day of operation. A rough stick was responsible. Picker* **b** *wore until one of the rivets was exposed; the rivet cut the stick. Laminated picker stick* **c** *was broken as a result of weakening at the point where the picker worked.*

of curing the wood has had. Heavy, smooth-grain sticks, somewhat greenish in color, usually last longer than lighter, drier sticks.

On some types of looms, such as the Crompton & Knowles plain or single-shuttle-side loom, a good hickory stick usually is more satisfactory than a laminated stick, particularly if the adjustment of the pick is not exactly right.

LOOM DAMAGE. On a loom of this type, equipped with a half-loop bumper strap secured beneath the lay end, a laminated stick flexes very little and soon cuts through the leather. Unless this condition is corrected, the stick strikes the front end of the lay or some other part of the loom, such as a shipper lever or shipper-lever support. Besides breaking the stick, such an occurrence also does damage to one of these other loom parts.

If the pick is too far to the front and the stick is in a "choked" condition, the result may be a run of broken picker-shaft arms, jerk straps, sweep sticks, power straps, and lug straps. The flexibility of a good hickory stick gives a margin of safety that recompenses for some of this poor pick adjustment. However, the laminated stick, being rigid, will not operate in such a strained adjustment; and breakage of other loom parts can become a serious problem.

On multiple-shuttle looms, the picker stick is somewhat cushioned by the floating action of the spindle-rod bumper straps. Under ordinary conditions, the laminated stick operates advantageously on this type of loom. Breakage rarely occurs if the picking action is properly adjusted.

If the pick is choked, however, wear will show quickly on the teeth of the drive gear and sometimes on the crankshaft gear. In time, this wear will necessitate new gears. The gears will wear more rapidly if picking is further aggravated by heavy sticks or shuttles, too-heavy picking, or improper timing.

Another factor that should be considered in judging of the relative merits of the two types of picker sticks is the amount of loom-production time lost because of the sticks. Changing a stick on a multiple-shuttle loom may require only a minute or two; changing one on a single-shuttle-side loom may take as much as fully 15 min. However, the amount of time lost between the stopping of the loom and the arrival of the fixer may be considerably more, depending upon the jobs the fixer has ahead of the broken stick.

BREAKAGE OF PARTS. Much time may be saved by using a long-life stick, such as the plywood, because of decreased loom-waiting time. If, however, breakage of other parts is increased, no real saving of time is realized, since picker sticks can be replaced more quickly than many other picking-action parts.

It is easier to change picker sticks or make adjustments on the power strap if wood screws are used for attaching the hold-up to the stick. On the laminated stick, wood screws are not satisfactory because a slight pull on the power adjustment, either up or down on the pick, will eventually cause the screws to break or the holes to become distorted, Fig. 3. This trouble is also experienced with hickory sticks, but to a lesser extent.

The best method of attaching the hold-up is to use a power-strap support of metal or wood. A good *U* clamp of flat metal strips is effective. Leather cushions should be used between the metal strips and the stick in order to prevent chafing the stick.

There is a difference in the pick of a laminated and a hickory picker stick; and if a loom is changed from one stick to the other, the pick must be readjusted. This adjustment, of course, is a matter of routine; but accurate records of a test group of looms should be kept until everyone concerned is satisfied that a true picture of the relative merits of the two sticks has been obtained for the prevailing manufacturing conditions.

Fig. 3. Screws used for attaching the hold-up to the laminated stick of which this is a section are easily broken or the holes distorted if a slight pull is placed on the power adjustment. The use of a **U** *clamp as a power-strap support is usually more satisfactory than screws for use with laminated sticks.*

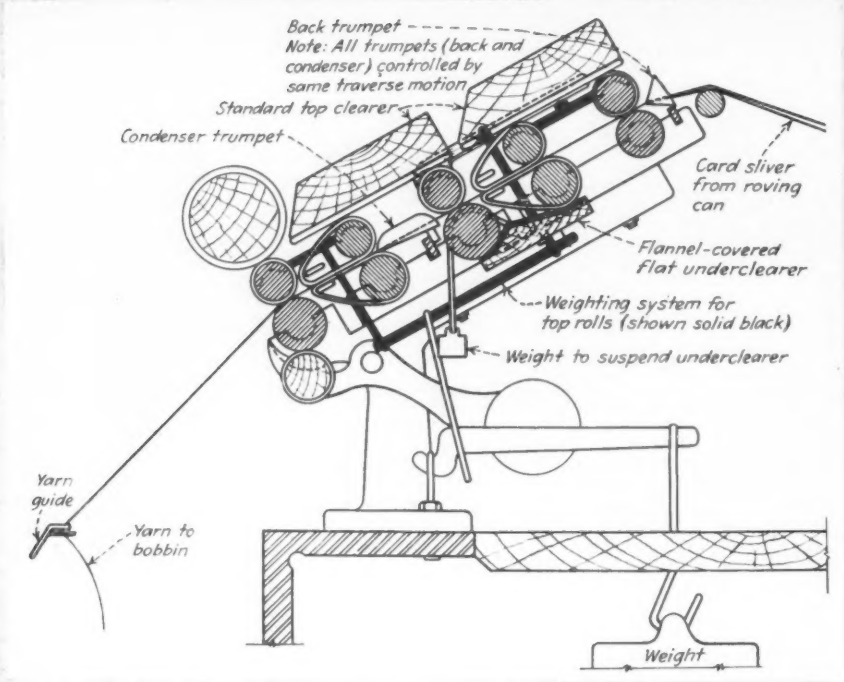

Back trumpet
Note: All trumpets (back and condenser) controlled by same traverse motion
Standard top clearer
Condenser trumpet
Card sliver from roving can
Flannel-covered flat underclearer
Weighting system for top rolls (shown solid black)
Weight to suspend underclearer
Yarn guide
Yarn to bobbin
Weight

Fig. 1. The Avon drafting system, basically a set of long-draft slubber rolls running in tandem with a set of long-draft spinning rolls, consists of five sets of rolls, two sets of which are covered with short carrier aprons. It is possible to vary the back draft so that the ribbon of fibers held by the middle roll is equivalent in weight to standard roving weights used in the spinning-frame creel. The draft between the middle rolls and the front rolls can be adjusted to approximate the usual draft on a spinning frame.

NEW DRAFTING SYSTEM
Spins Yarn From Card Sliver

HIGHLIGHTS: *Combined roving-spinning frame developed at Avondale Mills, Sylacauga, Ala.—Direct drafts up to 600 are possible—Tests indicate improved yarn up to 40s—A changed-over spinning frame will pay for itself within a year.*

By P. M. THOMAS
Associate Editor, TEXTILE WORLD

A DRAFTING SYSTEM capable of spinning yarn directly from card sliver has been developed at Avondale Mills, Sylacauga, Ala.

Known as the Avon drafting system for spinning, the assembly was patented by H. F. Roberts, superintendent of the five mills in Sylacauga, and R. R. Pope, overseer of spinning in the Eva Jane Mill. The patent has been assigned to Avondale Mills.

Five pairs of rolls and two pairs of short carrier aprons, Fig. 1, are utilized in the Avon drafting assembly. The arrangement of the rolls might be described basically as a long-draft roving assembly running in tandem with a long-draft spinning assembly, with the middle pair of rolls acting as both the roving delivery roll and the spinning feed roll. It is practicable to vary the draft of both segments of the Avon system to maintain the mill's present range of rovings and yarns.

Experiments were conducted on an 18-spindle frame on which the Avon drafting assembly was installed as a

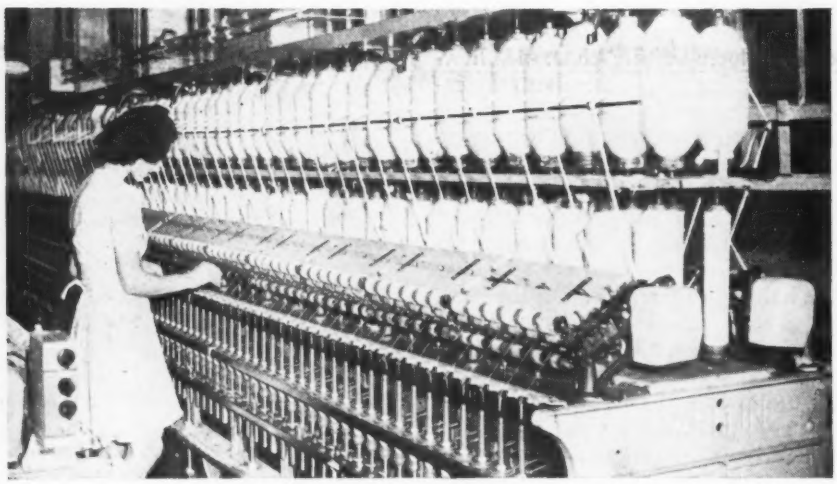


Fig. 2. This 252-spindle frame, equipped with the Avon drafting system, is spinning 20s yarn from 0.20-hank roving. It is estimated that when Eva Jane Mill is fully equipped with Avon change-overs, four 12x6 short-draft slubbers will be able to supply the roving for the spinning room that 24 10x5 long draft slubbers now supply.

change-over. Stock, either in the form of sliver from a can or roving from a standard spinning-frame creel, is taken into the assembly through a trumpet mounted on a traverse bar. This traverse and the traverse between the third and fourth rolls that carries the condenser trumpet are controlled by a single traverse motion, so that the ribbon of fibers is held in the same relative position on all five pairs of rolls during the drafting process.

DRAFTING ROLLS. From the back trumpet, the stock is taken by the feed rolls, which consist of a $\frac{7}{8}$-in. fluted bottom roll and a $\frac{3}{4}$-in. top roll covered with a cot. The next pair of rolls are knurled, the bottom roll being $\frac{7}{8}$ in. and the top roll $\frac{3}{4}$ in. in diameter. Each of these rolls drives a short apron mounted on a cradle to present a horizontal working surface to carry the ribbon of fibers to the middle pair of rolls.

The fluted bottom middle roll is $1\frac{1}{8}$ in. in diameter, and the top covered roll is $\frac{3}{4}$ in. in diameter without the cot. From this pair of rolls, the stock is condensed by a trumpet and enters the second pair of carrier aprons which are identical with the first pair of aprons. The front rolls are also identical with the middle rolls.

The roll-weighting system consists of a dead weight suspended under the roller beam by a hook. By means of a series of levers and bars, pressure from the weight is transferred to a front saddle resting on the front and second rolls and to a middle saddle resting on the middle roll and the back saddle. The back saddle weights the fourth and fifth rolls.

A flat under-clearer, held in place by a small weight, bears against the middle and fourth rolls. Two flat top clearers rest on the second and third rolls and the fourth and fifth rolls. Revolving clearers are used for both front rolls.

Yarns have been spun successfully from card sliver, drawing sliver, and slubber roving as coarse as 0.20 hank. Cotton, rayon, and Aralac fibers have been processed into yarn on both the experimental frame and a full-length frame of 252 spindles.

DRAFTS UP TO 600. The assembly has proved successful for drafts up to 300, although drafts up to 600 have been used experimentally. Tests have indicated that yarns up to 40s, spun on the Avon drafting assembly, are more even and have a breaking strength equal to corresponding yarns spun on other drafting systems now generally employed by mills, it is reported. Yarns up to 60s have been spun on the Avon system, but at present the mill has not accumulated sufficient data to recommend the best preparatory treatment in the card room for these finer numbers.

One frame has already been changed over to the new drafting system, and assemblies for changing over 28 more spinning frames are now being built for Avondale Mills. Rolls for the assemblies are being made by Atlanta Textile Machinery Co., and the rest of the assemblies is being built and the final assembling will be done by Cox Foundry & Machine Co., Atlanta, Ga.

Tentative plans for the use of the Avon system at Avondale are to equip the spinning department of Eva Jane Mill (50,912 spindles) completely with the change-overs. Spinning production, now approximately 250,000 lb. per 6-day week, will remain the same. To conserve floor space in the spinning room, slubber roving, instead of card or drawing sliver, will be used in the creels.

This production arrangement will make it possible to discard 24 10x5 long-draft slubbers and use four 12x6 short-draft slubbers. To accommodate the larger roving package, spinning-frame creels will be raised and the skewer eyes and holes in the creel boards will be rearranged.

Labor and other production costs in the spinning department will remain the same as at present, it is estimated; but card-room savings made possible by the use of the Avon assembly at Eva Jane Mill, where one roving process is now used, will permit a change-over frame in the spinning room to pay for itself within one year.

Orchid to Avondale

The Avon drafting system described here, combining the conventional roving and spinning processes into a single machine, is typical evidence of the progressiveness of Avondale Mills in textile-processing technology. Still further evidence is Avondale's willingness to disclose freely these technological advances to the industry. The resultant recognition reflected on Avondale's personnel has proved to be an incentive beyond the value of remuneration and immeasurable by the yardstick of dollars and cents.

Other machines and devices disclosed in Avondale's recent "open house," some of which have been or will be described in TEXTILE WORLD, are the Pneumafil scavenger system, ball-bearing top rolls for spinning frames, nylon bolsters, one-shot winder lubrication, centralized brine distribution, compression card-calender rolls, controlled-load slasher squeeze rolls, hot-air slasher drying.

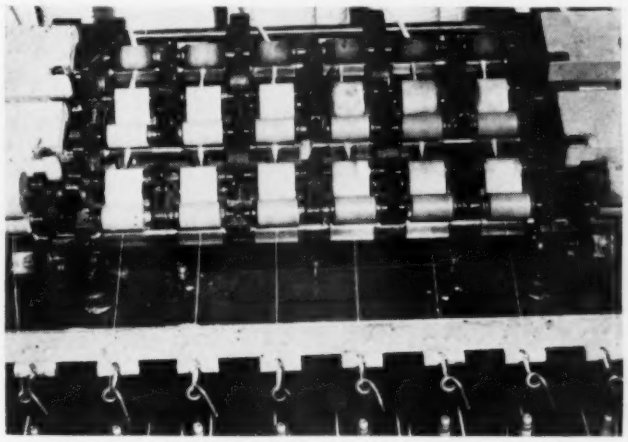
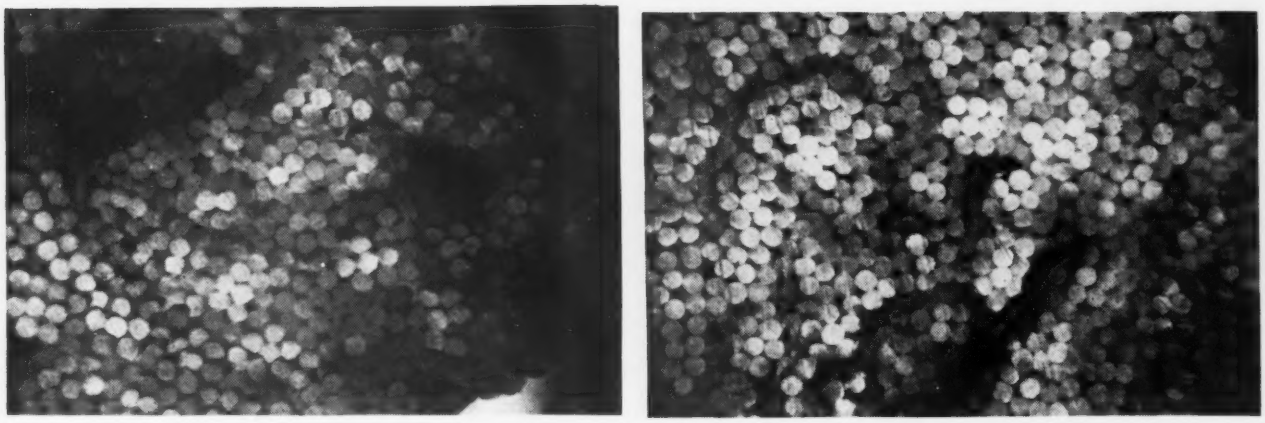


Fig. 3. The five-roll Avon system, spinning 20s yarn here, is said to produce yarns up to 40s that are equal in breaking strength and superior in evenness to yarns spun on conventional long-draft systems. When this system was installed at Eva Jane Mill, it was necessary to accommodate 12x6 slubber roving instead of 10x5 roving.

Data on Yarn Spun on the Avon Drafting System

Grain sliver fed	Av. yarn count delivered	Av. breaking strength (lb.)	Yarn count between extremes
68 (cotton)	13.7 (warp)	146	0.9
68	17.9	102	1.2
68	28.3	60	4.0
0.20 hank roving	18.0 (filling)	109	1.5
68	25.0	74	2.7
68 (rayon)	7.4	258	----
68	35.4	56	1.3



A comparison of the degree of penetration of developed color (left) and conventional dye (right). The darker appearance of the sample at left was attributed to its greater and more even penetration.

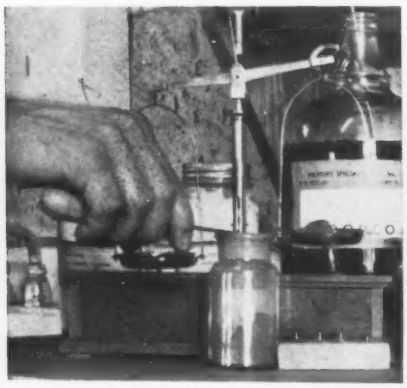
New NYLON-HOSE DYE Shows Good Wash Fastness

HIGHLIGHTS: *Full-fashioned nylon hose colored with new developed dye at Waldensian Mills shows improved wash fastness and dye penetration—Hose entered in tub at 190° F.——Pictures show procedure for dye preparation.*

By C. M. BOWDEN
Southern Editor, TEXTILE WORLD

IMPROVED FASTNESS and exceptional penetration of dye for nylon full-fashioned hosiery have been obtained by the Waldensian Hosiery Mills, Valdese, N. C., through a new dyeing process. The process uses a new developed dye, Pro-Nyl, manufactured by Specialty Products Co., Jersey City, N. J. The procedure and formula shown below are those followed by Waldensian Hosiery Mills in preparing the dye, and in developing and sampling the hose. By color variation, the mill dyes in shades of brown or black. Several pastel shades can be obtained.

Tests on stockings dyed by the



1. *The laboratory dyer of Hickory Specialty Co., Hickory, N. C., illustrates the method used at Waldensian Hosiery Mills in the preparation of the new type. The amounts of dyestuff are selected and weighed according to the shade desired. Proper combination of the pastel shades must be maintained if correct shading is to be obtained. Here, the dyer begins a dye mix which must match the shade of a submitted sample.*

2. *The dyer pastes the dyestuff thoroughly in a beaker for the test run. Larger containers would be used for the mill run. The proportion of dyestuff to scour (shown in the large bottle in the background) is 1:2. Dyer also adds 10% of caustic soda which is figured on the weight of the dyestuff. Paste is then allowed to stand a few minutes in order to assure proper solution.*

3. *The dyer adds approximately two parts of boiling water to one part of paste solution and stirs well. The color must be thoroughly dissolved at this stage before proceeding.*

DYEING

1. Fill dye tub to volume.
2. Add 4 to 12-1/2% of Pro-Nyl scour depending upon the pre-treatment of the nylon.
3. Raise temperature to 190° F,
4. Enter hose, and treat at 190° F. for 30 min.
5. Drain tub.
6. Refill tub to volume, raise temperature again to 190° F., and add the dissolved dye paste as obtained from the procedure shown at the bottom of these pages.
7. Run machine for 30 min. at 190° F.
8. Add 4% of bicarbonate of soda, then run machine for 20 min. at 190° F.
9. Drop bath and rinse hose with cold water.

DEVELOPING

1. Refill tub with cold water.
2. Add 5% of sodium nitrite, and run machine 5 min. (cold).
3. Add 6% muriatic acid, and run machine again for 5 min. (cold).
4. Raise tub temperature to 150° F.
5. Add 3% of sodium nitrite, and run machine 10 min. at 150° F.
6. Raise temperature to 180° F. Refill tub to volume.
7. Run machine 20 min. at 180° F.
8. Rinse, soap, and finish in the customary manner.

The Waldensian Hosiery Mills follows the above procedure and formulas in dyeing full-fashioned nylon hose. Before developing the dye in the Smith-Drum rotary tub, the dyer may develop a test hose in the laboratory and match the resulting shade with samples of hose as shown below.

method used at Waldensian were conducted by U. S. Testing Co., Hoboken, N. J., for penetration, fading, fastness to washing, and skin-irritation. Two pairs of stockings dyed by the new process were tested with two pairs of hose purchased on the market.

The samples were washed in a Launder-Ometer at 150° F., with 0.5% soap concentration for a period of 30 min. After six washings, the hose purchased on the market had "an appreciable and objectionable loss in color," according to the test report. However, the hose dyed by the new process were washed a total of 15 times "with no appreciable loss in color," it was reported.

The photomicrographs shown at top of opposite page illustrate the comparison between the samples with regard to color penetration. The cross-section of the Pro-Nyl-dyed stockings is considerably darker, and this is attributed by the report to greater and more even penetration of the dye into the fiber.

Both types showed appreciable fading when exposed in a Fade-Ometer for 10 hr. Absence of skin irritants in the new dye was revealed when extracts of the dye samples were injected into animals.

4. *Dyer strains solution, then adds it to dye tub and follows procedure shown in panel at top of page.*

5. *Before developing the dye in the dye tub, the dyer develops a test hose in the laboratory by following the procedure outlined in panel above. He then matches the shade of the test hose shown above with that of the sample hose shown in the background. If shade is corrected, he proceeds with the dyeing in the dye tub. If incorrect, he must make adjustments in his original formula.*

Photos 1 through 5. By Mal Bowden, Southern Editor, Textile World

IMPROVE COTTON GRADE
By Removing Trash

HIGHLIGHTS: *Foreign matter in cotton causes a loss of almost 1½ grades by classification—Color can be improved from ½ to 1½ grades by removing foreign matter—Shirley Analyzer used for cleaning test cottons.*

By DOROTHY NICKERSON
Cotton Technologist, U. S. Dept. of Agriculture

GRADE OF COTTON, as it is standardized by the U. S. Dept. of Agriculture for American Upland cotton, depends upon color of fiber, amount and kind of foreign matter, and roughness or smoothness of ginning preparation.

Color of fiber provides the expert cotton man with information regarding the exposure to which cotton has been subjected and tells him something about insect and fungi damage.

Condensed from the paper "Effect of Cleaning on Grade and Color of Cotton," which is available at the U. S. Dept. of Agriculture, Washington 25, D. C.

The amount of foreign matter in a sample tells something about methods of harvesting and ginning and about the effects of weather from opening of the boll through picking of the crop. Preparation provides information concerning the care and efficiency of ginning methods.

Thus, grade refers principally to elements that are not bred into cotton fibers but are due usually to effects produced after bolls have opened.

WASTE IN COTTON. Under present and usual conditions of harvesting and ginning, most of the raw cotton sold in the bale contains considerable waste, Fig. 1. If cotton were perfectly clean, there would be only the factors of color and ginning preparation on which to grade cotton. The present study was made to determine how much the grade of cotton could be raised if the trash content could be eliminated.

Cottons used in the study were divided into three groups. The first group included 24 cottons harvested by different methods; the second included 170 cottons for which the seed cottons were available and measured for color; and the third included results on 336 samples, all that were hand picked in the 1945 annual variety studies.

FIG. 1

Grade No.	Grade name	Average waste (%)
3	Good Middling	6.3
4	Strict Middling	7.2
5	Middling	8.0
6	Strict Low Middling	9.2
7	Low Middling	11.8
8	Strict Good Ordinary	14.0
9	Good Ordinary	16.5

Fig. 1. Picker and card waste for the cotton grades specified.

The amount of waste by weight after cleaning is reported for the visible waste obtained for cotton cleaned on the Shirley Analyzer. The color measurements were made by means of a disk colorimeter and reported in terms of the Munsell concepts of value (lightness or darkness of color) and chroma (strength or weakness of color). Munsell values range from white=10 to black=0. The grays between 0 and 10 are designated by vis-

GROUP 1

FIG. 2

Where harvested	Method of harvesting	Grade No.	No. of samples	Color measurements	
				Value	Chroma
College Station, Tex.	Hand picking	6	4	8.38	1.20
	Hand snapping	8+	4	8.18	1.24
	Machine picking	7−	3	8.15	1.30
	Machine stripping	8−	4	8.00	1.02
Lubbock, Tex.	Hand picking	5−	3	8.63	1.21
	Hand snapping	7−	3	8.51	1.05
	Machine stripping	7+	3	8.43	1.05

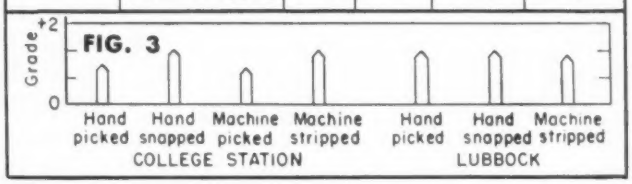
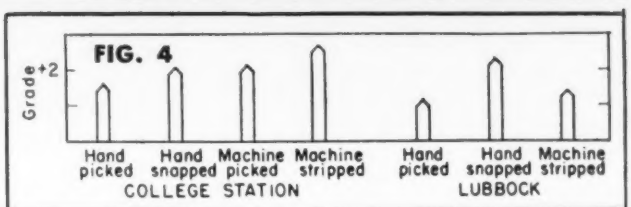
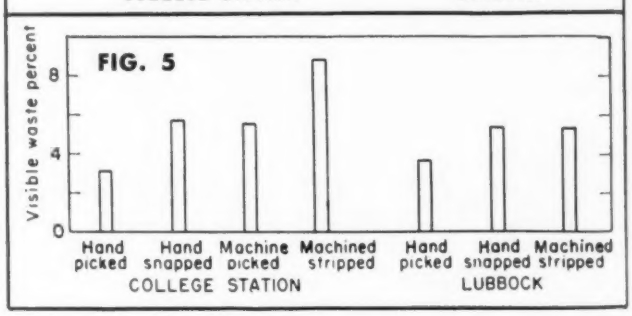


Fig. 2. Grade and color measurements of 24 samples of raw cotton harvested by several methods. **Fig. 3.** *Improvement in grade (by classification) of 24 cottons harvested by several methods.* **Fig. 4.** *Improvement in grade (by converting color measurements of equivalent grade) of 24 cottons harvested by several methods.* **Fig. 5.** *Amount of visible waste removed from 24 cottons.*





GROUP 2

FIG. 6

Color class	Grade No.	No. of samples	Color measurements	
			Value	Chroma
White (regular)	3	13	8.92	1.18
	4	25	8.87	1.29
	5	41	8.73	1.27
	6	38	8.52	1.13
	7	14	8.13	1.11
White (bright)	5	4	8.85	1.28
	6	6	8.73	1.33
	7	12	8.54	1.14
	8	7	8.32	1.05
	9	2	7.94	0.89
Gray	6	1	8.25	0.77
Light Spotted	3	4	8.79	1.40
	4	3	8.59	1.00

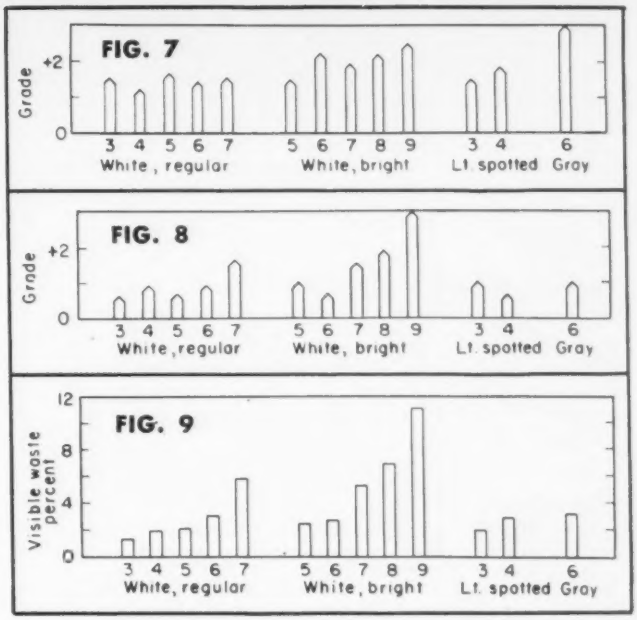


***Fig. 6.** Grade and color measurements of 170 cottons.* ***Fig. 7.** Improvement in grade (by classification) of 170 cottons.* ***Fig. 8.** Improvement in grade (by conversion from color measurements) of 170 cottons.* ***Fig. 9.** Amount of visible waste removed from 170 cottons harvested by several methods.*

ual steps. Thus, 5 is the color-value notation for a gray that looks halfway between black and white.

GROUP NO. 1. The 24 cottons in the first group included 15 harvested at College Station, Tex., and nine harvested at Lubbock, Tex., Fig. 2. The methods of harvesting included hand picking, hand snapping, machine picking, and machine stripping. Grades ranged from 5– to 8+.

The improvement in grade, based on classification of paired samples of cleaned and uncleaned cottons, Fig. 3, was as follows:

Harvesting method	Grade improvement	
	College Station cottons	Lubbock cottons
Hand picked	1½	2
Hand snapped	2	2
Machine picked	1+	—
Machine stripped	2	2–

(Continued on page 196)

GROUP 3

FIG. 10

Color class	Grade No.	No. of samples	Color measurements	
			Value	Chroma
White (regular)	4	18	8.95	1.36
	5	38	8.82	1.30
	6	92	8.66	1.19
	7	14	8.47	1.20
	8	5	7.94	0.80
White (bright)	5	10	8.89	1.37
	6	27	8.77	1.26
	7	10	8.42	1.12
White (rough preparation)	4	15	8.96	1.22
	5	9	8.83	1.26
White (dull or gray cast)	7	11	8.56	1.06
Extra White	4	5	8.88	1.17
	5	12	8.93	1.18
	6	22	8.80	1.10
	7	3	8.62	1.05
Gray	5	1	8.15	0.85
	6	7	8.39	0.93
Light Spotted	4	10	8.86	1.44
	5	24	8.76	1.30
Spotted	6	2	7.92	1.66
Tinged	5	1	7.93	2.44

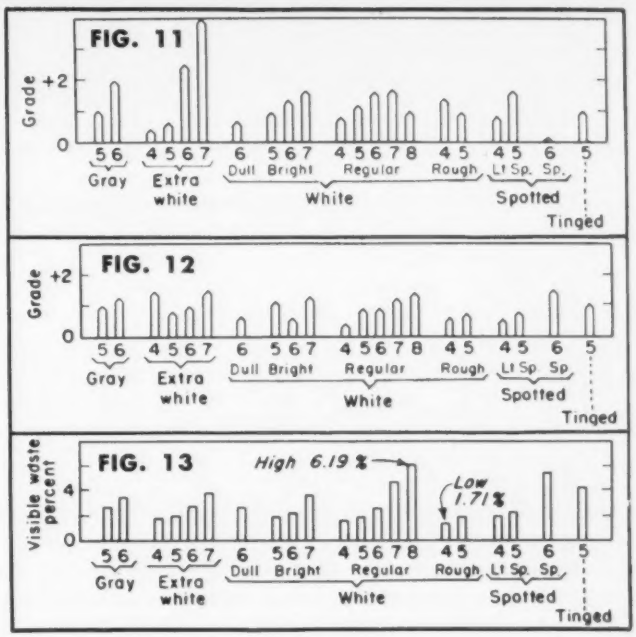


***Fig. 10.** Grade and color measurements of 336 hand-picked cottons.* ***Fig. 11.** Improvement in grade (by classification) of 336 hand-picked cottons.* ***Fig. 12.** Improvement in grade (by conversion from color measurements) of 336 hand-picked cottons.* ***Fig. 13.** Amount of visible waste removed from 336 hand-picked cottons. (All tables are from USDA report mentioned on page 130.)*

Beating Braider Breakage

SUN TEXTILE LUBRICANT . . .

Puts an end to gummy condition that breaks machine parts. Cuts lubrication costs over 50%

A manufacturer was using an expensive oil to lubricate braiders and looms used in making rubber hose. The oil oxidized and became gummy, causing breakage of machine parts and making the machines hard to clean.

A Sun Engineer who was consulted recommended a Sun textile lubricant used in similar machines in many other plants. With this Sun lubricant, breakage of parts was completely eliminated. Cleaning costs were cut to a minimum. Lubricating costs were reduced more than 50 per cent.

This case is typical of many where Sun Products have helped "produce more for less." One rug manufacturer cut costs 10 per cent with Sun. A well-known hosiery manufacturer reduced rusting and high maintenance costs when he changed to Sun. In a textile mill a Sun lubricant cured a bad drippage problem after seven others had failed. *For information on Sun's full line of "Job Proved" lubricants* for the textile industry, write Department T8.

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Government Encouraging Mills to Use SILK

HIGHLIGHTS: *Silk is piling up despite governmental desire to make profit to help pay Japanese occupation costs—Federal agency has contract with Silk Guild to promote—Prices fixed for balance of year.*

By GLADYS MONTGOMERY
Washington Bureau, McGraw-Hill

No Endorsement

The presentation of this picture of the situation in regard to silk by no means constitutes an endorsement by TEXTILE WORLD of the program outlined; certainly we do not commend the way silk has been handled to date. We are not in favor of the government's promoting any particular fiber to the detriment of any other, especially at the taxpayer's expense. But we do feel that the facts gathered here should be published for the information of the industry.—*Editor.*

IN THE FACE of a constantly pyramiding stockpile of Japanese raw silk, the United States Government is determined to find ways and means to increase its uses.

The United States Commercial Co., subsidiary of the Reconstruction Finance Corp., which is handling the sale of raw silk in this country, is urging rubber companies to find more uses for it, even to the extent of adapting raw silk to airplane tire cord. The USCC is having some silk thrown to 1100 denier and turned over to rubber companies for test purposes. It is also considering differentiating in prices between raw silk for normal textile purposes and that for other purposes such as the suggested silk cord.

The USCC already has announced that a contract has been signed with the International Silk Guild, Inc., New York, for a promotional program to expand utilization of the fiber. This action was taken at the request of the War Department and General Douglas MacArthur, Supreme Commander for the Allied Powers in Japan (SCAP). USCC plans that the work will start with a market analysis, followed by a promotional and advertising program.

Under Government research contracts, the guild will study ways to improve silk, such as treating it with chemicals to overcome some of its weaknesses. The cost of the program will be met in part by purchasers of selected assortments of raw silk. These selected assortments, comprised of 300 bales each, had been 25¢ per lb. less than the price at which individual lot quantities of silk sold. The differential from now on will be 22½¢, the remaining 2½¢ per lb. going into the promotional program. Additional cost of the program, it is stated, will be met by USCC from War Department funds derived from the sale of raw silk.

THREE PROBLEMS. The disposal of Japanese raw silk in the U. S. poses three interrelated problems: (1) the necessity of building up, with silk exports from Japan, some kind of a dollar exchange for Japan against the day when the occupation forces will move out, and in the meantime, providing the principal offset to the cost of occupation; (2) the development of a satisfactory pricing policy; and (3) determining the place and scope of silk use in the midst of strong and growing competition from synthetic fibers.

The USCC reports that the inventory of raw silk in the U. S. and silk in transit from Japan as of June 30, 1947, amounted to 56,980 bales (133 lb. each). Added to this amount of raw silk, there are 89,773 bales available for export from Japan, much of which probably will have to be used for manufacture of piece goods in Japan. Sales in this country totaled about 3,000 bales in May and only 400 bales in June, as against present Japanese production running about 8,500 bales of exportable raw silk per month. Unofficial USCC estimate is that the U. S. market could be built up to 5,000 bales per month in the next two years.

The announcement of a stabilized-price program with fixed prices for raw silk until Jan. 1, 1948, was expected to stimulate much greater sales than were realized. However, weavers and knitters who bought heavily during the period when USCC was auctioning off its raw silk and who got caught in a falling market apparently are wary about stocking up again, the more so because USCC is making plans to get out of the silk business at the end of the year; and, at this writing, no successor has been announced.

FIXED PRICE. That the price of raw silk will be set in one way or another for years to come is the opinion of USCC top officials. This may be done by the Japanese Government, subject to approval by SCAP and later on, perhaps, the United Nations. They discount the suggestion that the prices of raw silk be set by representatives of all silk-growing countries because such action would result in the creation of a cartel. They stress the point that as long as this country is feeding Japan, government is sure to keep a strong hand on the exports of raw silk and the prices as well. It is not feasible, they contend, to put Japan on a lend-lease system which was denied to our Allies.

There cannot be a "free market," USCC spokesmen declare, without a number of both sellers and buyers. In

(Continued on page 204)

Silk Prices in Effect For Balance of 1947

Grade	Price per pound	Grade	Price per pound
AAA(Spl.)	$5.60	C	$4.55
AAA	5.30	D	4.40
AA	5.00	E	4.25
A	4.85	F	4.10
B	4.70	G	3.95

There are some special provisions and reservations concerning these prices, some of which are pointed out in the text.

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Get it Quickly from Ryerson Stocks

Have you considered stainless steel for every application where its corrosion resistance, everlasting brightness and long life will save money or increase the sale of your product? You can easily try it because Ryerson stocks of Allegheny stainless are as near as your telephone and we're just as pleased to furnish a single piece for experimental work as a large shipment for quantity production.

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Allegheny stainless brings gleaming brightness and long life. Your nearby Ryerson plant brings fast, friendly service. So step up the performance of your equipment, the quality or appearance of your product with Allegheny stainless from Ryerson stocks. Contact the plant nearest you.

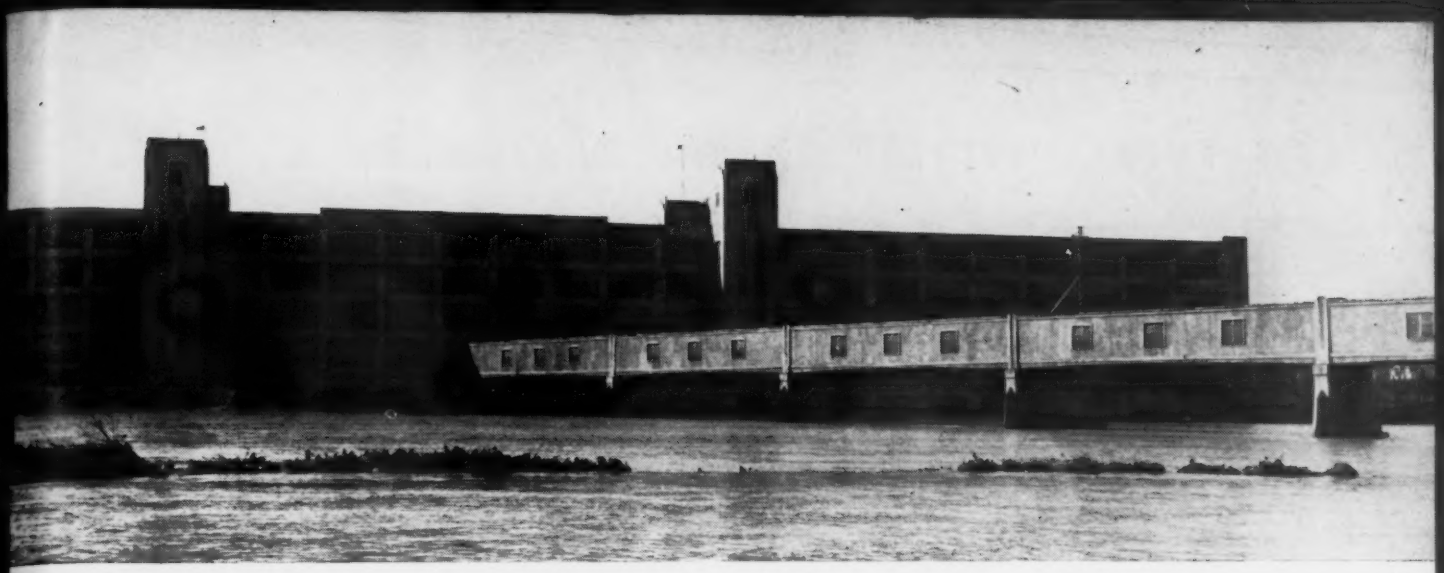
JOSEPH T. RYERSON & SON, Inc. Steel-Service Plants at: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles.

DO YOU WANT A CURRENT LISTING OF RYERSON STAINLESS STOCKS?

We would be glad to send you the current Stainless Steel Stock List, showing sizes actually on hand in the following stainless products:

Plates	Hexagons	Angles	Pipe Fittings
Sheets	Squares	Pipe	Welding Electrodes
Rounds	Flats	Tubing	Fastenings

RYERSON STEEL



***Saturated brine** is carried 3,700 ft. in pipes through this bridge across the Dan River from storage to the dyehouse.*

SATURATED BRINE
Reduces Costs at Dan River

***HIGHLIGHTS:** Lixator installation reduces eight salt-handling operations to one—Saturated brine produced by filtration—Storage space holds 18 carloads of salt—12% saving in salt.*

By NORMAN AGNEW

MODERN ENGINEERING METHODS applied to salt storage, handling, and brine-making at Dan River Mills, Riverside Division, Danville, Va., have substantially reduced the company's annual salt bill, saved considerable time and labor formerly spent adding evaporated salt to the dye baths, and eliminating the margin of error that used to cause spotty, uneven dyeing when operators dumped in too much salt at a time, according to Harold M. Chase, Director of Research for the company.

In the past, Dan River operators used evaporated salt in the dye baths, pouring it by hand into the 24 tanks at the raw-stock dye house and the 25 tubs at the suiting dye house.

From its storage place in the plant, this salt, which was delivered to the plant in bags, had to be hauled one-quarter of a mile to the suiting dye house and three-quarters of a mile to the raw-stock dye house. One truck and three men working full time were required to haul the salt to its points of use, with additional time and labor required to unload the cars when they arrived and to truck the bags from the rail siding to the storage house. Every bag of salt had to be loaded and unloaded eight times in all, four times from rail car to storage, and four more from storage to dye house.

In addition to the time and labor required, the old method of delivering salt was likely to cause additional trouble by interrupting plant operations as the delivery truck moved down the aisles between the vats and blocked the passageway.

Today, the company uses self-filtered, saturated, pure brine automatically made from inexpensive rock salt in a storage Lixator engineered by the International Salt Co. Inc. Saturated brine is pumped from the brine-storage tank directly to the tanks and tubs in the two dye houses 3,700 ft. across the Dan River to its farthest point of use.

Instead of using plant space needed for other operations as a storage place for salt, the company stores rock salt in the Lixator itself, which is large enough to hold 18 carloads of salt.

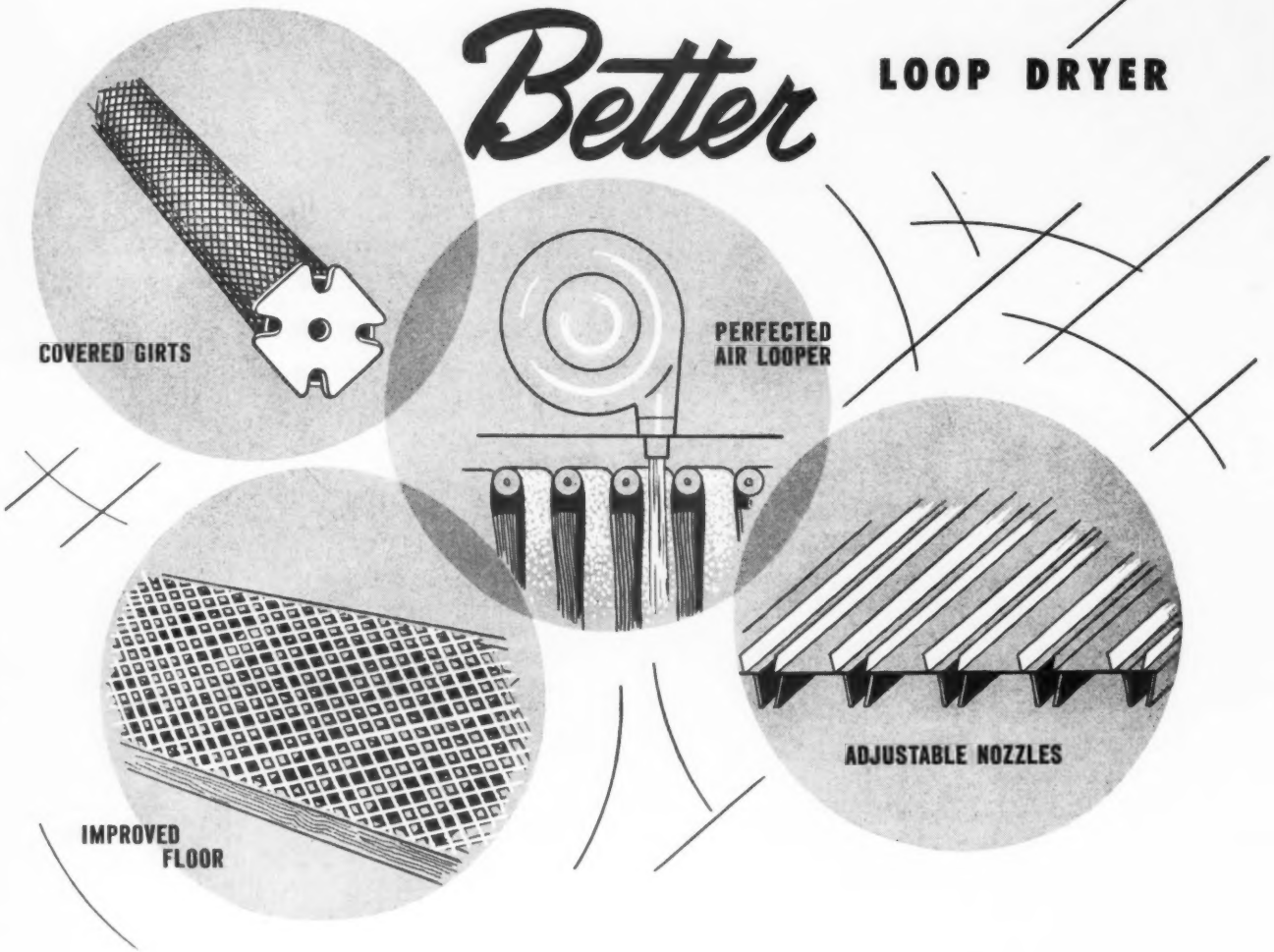
FLOW METER. To add saturated brine, operators simply use a flow-stop meter; when the exact amount of brine required by the formula has been added, as indicated by the hands of the regis-

(*Continued on page 200*)

***Storage-type Lixator** at Dan River mills is built beside a railroad trestle so that cars of rock salt may be unloaded directly into the storage area above the liquid level.*

***Only salt handling** required is unloading of rail cars and movement of salt by wheelbarrow to the openings in the top of the storage Lixator.*

IT'S THESE "LITTLE" THINGS THAT MAKE A *Better* LOOP DRYER



On the surface, you may be inclined to say to yourself, "a loop dryer's a loop dryer", and let it go at that. While the principle may be the same, there is a big difference in loop dryers. There are incorporated in the latest model Proctor loop dryers many refinements that definitely make for superior performance. For example, girts are covered with a treated covering that prevents cloth from adhering and eliminates the danger of "stick marks" in the finished goods. In addition to being covered, girts are designed to revolve at given intervals so that no part of the material is in contact with any part of the girt for any appreciable time.

To aid in forming smooth loops in certain classes of goods, the perfected air looper—another Proctor feature—is proving invaluable. A carefully timed jet of air is forced down into the loop as it begins to form, thus assisting in forming perfect loops, even in "difficult" material.

Because certain types of fabrics require more or less air than others—it is possible to regulate the air circulation in the Proctor dryer by means of adjustable nozzles. An exterior adjustment makes this a simple operation and also permits the operator to determine the exact amount of air circulation taking place inside the machine. Swirling and creases are eliminated, resulting in better finished fabrics.

A strengthened, stamped mesh floor simplifies cleaning and prevents undue accumulation of lint inside of the dryer.

If you are not already fully aware of the operating advantages offered by the Proctor loop dryer—you really owe it to yourself to investigate this machine without delay. Write today for details.

PROCTOR & SCHWARTZ, INC.
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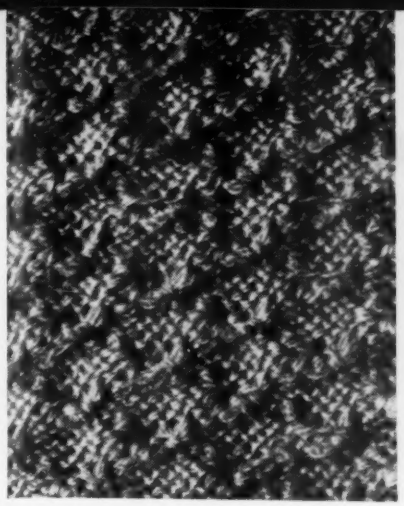
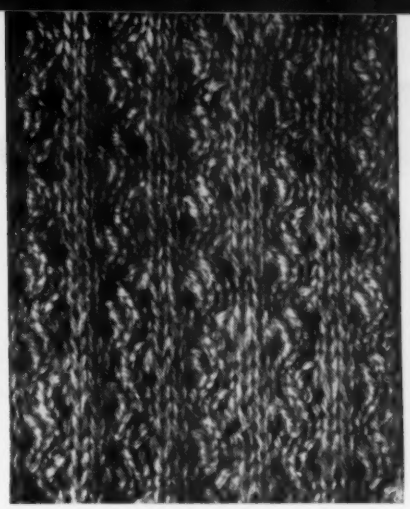
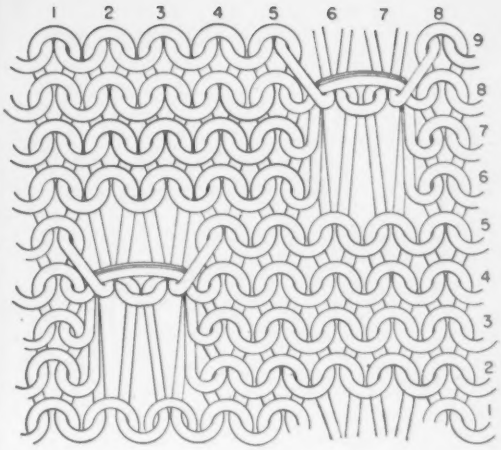


A



B

Simple tuck-stitch fabric: A is knitted as the back of the fabric but is often now used as the face because of the raised shell-type pattern. B is knitted as the face and shows the shog effect often typical of this type.



Diagrammatic form of stitch used for fabric shown in phonographs. It is a view of the side shown in A, but does not show the distortion which occurs in actual knitting.

Have You Thought of the TUCK STITCH Lately?

HIGHLIGHTS: *Simple knitting operation permits patterns, raised effects, openwork, shaping, and many other constructions—Operates on either latch or spring needle machines by arranging for needle to hold previous loop for one or more additional courses—Intended distortion may be produced.*

By HARRY WIGNALL, *Leicester, England*

THE TUCK STITCH is one of the most versatile and useful stitches in the knitting industry. Knitters might profitably check to see whether full advantage is being taken of this stitch in their plants. It can be used for nearly all types of effects, patterns in color, patterns in stitch, raised effects, openwork effects, shog effects, strengthening, shaping, mock fashion marks, and many other purposes.

In its simplest form, the tuck stitch is produced by loop accumulation. On a latch-needle machine, the needle rises to take the new thread but does not clear the old loop below the latch; and it thus produces a tuck stitch. On a spring-needle machine, the tuck stitch is formed by allowing the needle to take the new thread and by arranging the loop-forming elements in such a manner that the beard is not pressed and the old loop is not cleared.

Before the advent of automatic knitting, it is interesting to recall that the tuck stitch was used primarily for color designs. The arrangements were somewhat primitive. The operator would tie strings to the needles which had been selected to tuck and these passed over a pulley to a boy who pulled the strings as the operator called for them to hold the needles away from the presser. The term "pulling strings" still has a lot of significance in our vocabulary.

TYPICAL USE. A typical form of the knitted tuck stitch is shown in the fabric illustrated. Photograph *A* shows one side of the fabric; *B* shows the other.

In *A*, it will be seen that an attractive, raised, shell-type pattern is produced. Although this was formerly considered the back of the fabric, it is probably used today as the face more frequently than otherwise. In *B*, the knitted front of the fabric, alternate pairs of wales give the appearance of being "shogged" to and fro. This is due to the distortion and strain of the loop construction. Obviously, if a loop is tucked, that wale has less loops than wales knitting in succession. That variation in length causes acute distortion. Therefore, the tucked wale is drawn straight, and the continuous knitting wale waves to and fro.

The technical loop structure of the fabric is shown without distortion in the accompanying diagram which presents the same side of the fabric as in photograph **A**. It will be seen clearly that alternate pairs of wales knit continuously, these are wales 1, 4, 5, 8, etc. In course 1, as numbered on the right side of the diagram, all needles knit normally. At course 2, all needles knit except 2 and 3; and this continues for three courses while needles 2 and 3 continue tucking. At course 5, all needles knit; and, at courses 6, 7, and 8, needles 6 and 7 tuck while the remainder knit. If the wales are taken in pairs, it will be seen that the pairs knitting continuously are under a strain, first on one side and then the other, which is responsible for the shogged effect.

The tuck stitch is always finding new uses; and, although technically it produces a fabric with stresses and strains unequally distributed, it remains the principal general-purpose fancy stitch currenly used in knitting.

kier boiling...
scouring...
boiling off

In handling wool . . . cotton . . . or silk, the efficiency of your scouring or boiling operations depends mainly on the quality of the chemicals you use. Whether your process calls for Trisodium Phosphate, Tetrasodium Pyrophosphate, Sodium Metasilicate, or Sodium Silicate, you can be sure of your selection if you always—

Photo courtesy of Pepperell Mfg. Co.

SPECIFY "GENERAL CHEMICAL"

Select Your Basic Textile Chemicals from these General Chemical Products

- Aqua Ammonia
- Acetic Acid
- Hydrofluoric Acid
- Muriatic Acid
- Sulfuric Acid
- Epsom Salt
- Glauber's Salt
- Sodium Bifluoride
- Sodium Bisulfite, Anhydrous
- Sodium Hyposulfite
- Sodium Metasilicate
- Sodium Silicate
- Disodium Phosphate, Anhydrous
- Tetrasodium Pyrophosphate
- Trisodium Phosphate
- Sodium Sulfide
- Oxalic Acid
- Chrome Alum
- Ferric Sulfate *(Iron Copperas Nitrate)*
- Sodium Sulfite, Anhydrous
- Nitre Cake *(Sodium Bisulfate)*
- Nitric Acid
- Mixed Acid
- Aluminum Sulfate
- Lead Acetate
- Aluminum Chloride, Solution

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Employee received compensation for injury even though he lost no time or wages.

New Decisions Affect LAWS Applying to Mills

HIGHLIGHTS: *Unimpairment of earning power does not forestall compensation awards—"Reasonable time" in which to file claims can be well over year—Patent resulting from work on invention at home may be held company's.*

By LEO T. PARKER, *Attorney at Law, Cincinnati, Ohio*

DURING THE PAST FEW MONTHS, higher courts have decided unusual and important phases of law relating to the textile industry. In many cases these new decisions have reversed older law. However, in other instances technicalities of modern law have won the law suits.

Few executives have sufficient spare time to study and acquire legal knowledge designed to enable them to recognize indications of adverse suits and forestall contract litigations. Therefore, this article shall review late and leading higher-court decisions designed to assist readers to avoid similar legal controversies. Moreover, the cited modern cases may be advantageously utilized to win unavoidable suits.

EMPLOYEE EARNS MORE. According to a recent higher court, an employee may recover compensation under the State Workmen's Compensation Act although after an injury he gets another job and earns more salary than he was earning when he sustained the injury.

For example, in Ripley v. Anderson Cotton Mills, 40 S. E. (2d) 508, it was shown that an employee while employed in a machine shop received injuries to his eyes as the result of an explosion which blew him completely from the building. The employee was assisting in the welding of an acetylene generator at the time the explosion occurred.

The higher court awarded the employee $1,000 compensation, although after the injury he earned more salary at another job than he was earning when he sustained the injury in the cotton mill.

SEPARATE AWARDS. According to a recent higher court, an employee injured in a textile mill may recover separate awards of compensation for each distinct injury although he returns to the same work at the same salary.

For instance, in Shillinglaw v. Springs Cotton Mills, 40 S. E. (2d) 502, it was shown that an employee of the Springs Cotton Mills, while working in the course of his employment, suffered electric burns on the face, arms, hands, and neck. He was paid temporary total disability from the date of the accident until he returned to work.

Some time after the employee filed a claim for disfigurement. The testimony showed that the employee had a scar on his right wrist 1½ in. wide and 2½ in. long; a scar on the left side of his hand and scars above the elbow; scars on the left wrist and hand; burns on his arm, right shoulder, and right side; tightness and discoloration under the neck, all of which were held to constitute serious bodily disfigurement. There was also a dark discoloration under both eyes, which was held to constitute a serious facial disfigurement.

The higher court stated that the employee was entitled to recover separate awards of compensation under the State Workmen's Compensation Act for his bodily and facial disfigurement. This court said, "If the scars were sufficient to constitute serious bodily disfigurements, or if there was facial disfigurement resulting from the accident, we think the claimant should be offered an opportunity of completing the record in these particulars."

COMPENSATION REFUSED. Generally speaking, an employee who is not available for other work cannot re-

A dye beck in the year 1820 — *Courtesy J. B. Lippincott Co.*

The dyer of 1820 was limited to the use of *natural* dyestuffs.

The first practical, *synthetic* dyestuff appears to have been prepared in 1856. This was followed by an era of significant progress in the textile industry.

In utilizing *modern* dyestuffs, today's dyers are aided by Rapidase. This product of Wallerstein Research assures rapid and consistently effective de-sizing of cottons, rayons and mixed goods over a wide range of temperatures.

RAPIDASE

WALLERSTEIN COMPANY, INC. **180 Madison Ave., New York 16, N. Y.**

cover compensation payments under the State Unemployment Law.

For illustration, in D'Yantone v. Unemployment Compensation Board of Review, 46 Atl. (2d) 525, an employee was laid off. She registered for work and filed an application for benefits under the State Unemployment Laws. She received benefits for several weeks when the bureau determined that she had failed to accept suitable work within the meaning of the Unemployment Compensation Law and refused further payments. The higher court also refused to allow her unemployment compensation.

REASONABLE TIME. According to a recent higher court, a "reasonable" time in which to file an application for compensation under the State Workmen's Compensation Act can be many months, if conditions warrant delay.

For example, in Strouse v. Quaker Knitting Mills, Inc., 46 Atl. (2d) 526, it was shown that one Louis was employed by Quaker Knitting Mills, Inc., as a knitting-machine operator. On the morning of July 5, 1938, while repairing or fixing his machine, which was made of heavy cast iron, he bumped his right knee cap against it. He immediately notified his employer of the accident and continued to work despite his injury. Over 16 months later he applied for compensation under the State Workmen's Compensation Act. Although it was contended that he had delayed too long in filing his claim, the higher court awarded compensation because it was several months before physicians diagnosed his condition as chronic synovitis, a chronic inflammation of the synovial (lubricating) membranes of the knee joint. The court said, "What is a reasonable time must be judicially determined from the facts and circumstances in each case. The nature of claimant's injury must be considered as well as the fact that he was dissuaded from claiming compensation immediately after the accident."

PATENT OWNERSHIP. A common source of litigation arises when an employee obtains a patent and his employer claims ownership of it. It is well-established law if an employee invents a device on his employer's time, the employer is sole owner of the patent.

In National Development v. Gray, 55 N. E. (2d) 783, it was shown that an employee in the company's employment prepared a drawing at his home showing a machine.

The employee left the company's employment, and when the company officials found that the patent was exceedingly valuable, the company sued the employee. It is interesting to observe that the higher court held that the company was legal owner of the patent and ordered the employee to assign the patent to it. This court said, "Even though the drawing was prepared in his (Lawson's) own home, we think it came within the scope of his employment by the plaintiff (company) and that it belonged to the plaintiff no less than if the drawing was made at the plaintiff's shop."

AWARD NOT EXORBITANT. Considerable discussion has arisen from time to time over the legal question: Under what circumstances will a higher court reverse an award of compensation which is awarded an injured employee by a lower court or Industrial Commission?

For illustration, in Vick v. Springs Cotton Mills, 40 S. E. (2d) 409, it was shown that a shuttle with a steel point hit an employee of the Springs Cotton Mills in the mouth when it flew out of a loom. Three teeth were knocked out and a fourth was damaged and had to be removed. The employee sustained a cut lip and part of the bone of the upper jaw was removed to such an extent that he cannot have an upper plate fitted. The lower court ordered the Spring Cotton Mills to pay the employee the sum of $1,800 for serious and permanent injury to his upper teeth and jawbone.

The employer appealed to the higher court, contending that the award was excessive in view of the injuries sustained by the employee, and also he lost no wages on account of any loss of time from his employment. However, the higher court approved the verdict.

FAIR LABOR ACT. According to a recent higher court, an employee's right to recover overtime compensation under the Fair Labor Standards Act is not barred by his failure during his employment to demand overtime payments.

For illustration, in the case of Bloch v. Scott Textile Co., 63 Fed. Supp. 863, an employee sued the Scott Textile Co. under the Fair Labor Standards Act to recover unpaid wages in the amount of $1,344.91, together with liquidated damages in the same amount and attorney's fee. The total amount of the claim covered nearly 4 yr.

In holding in favor of the employee, the higher court said, "The complainant's (employee's) right to recover for overtime compensation under the act is not barred by his failure during his employment to demand such compensation."

The higher court affirmed the verdict in Bell v. Bloch, 152 Fed. 962.

CHILD DROWNED. Considerable discussion has arisen from time to time over the legal question: When is a company liable in damages for injuries to children who come onto the premises?

For example, in Barlow v. Gurney, 29 S. E. (2d) 681, it was shown that the Irene Cotton Mills maintain on the premises a pond, which is within 40 ft. of the village church and 20 ft. of the road and is in close proximity to the dwellings occupied by employees.

A child less than 4 yr. of age, while playing around the pond attempting to catch a tadpole, fell in, and was drowned.

The higher court held the company

(Continued on page 188)

Static Eliminator Removes Fire Hazard

Elimination of a fire hazard common to many coating operations has been accomplished at the plant of the Pantasote Company, Passaic, N. J., in a new and simple way. In this operation, static electricity is a constant and dangerous problem, as the product moves through the machines, for a spark can ignite vapors of the volatile solvents used.

Static charges are now safely drawn off by application of an Ionotron static eliminator. This device consists of a shielded bar supporting a strip of radioactive alloy at the point on the machine where the static charges tend to build up. The air at this point is ionized by the alpha rays from the radioactive source, and acts as a conductor to draw off the charges harmlessly as they

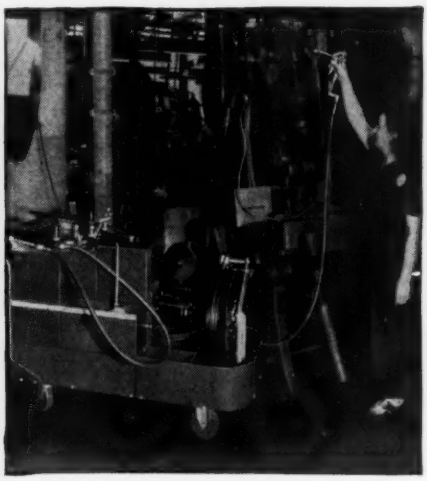
are generated. No electrical power source or other possible ignition danger is involved, there is not any physical contact with the coated surface.

For Textile Mills!

Complete Portable Lubrication Department with New Electric High Pressure Pump

● Without exception, this new Alemite Lubrikart is one of the most popular Alemite developments in a decade.

Here again is a typical example of how Alemite anticipates the needs of the textile industry in meeting its lubrication problems. For it is Alemite, and *only* Alemite, that provides the big 3 of lubrication—lubricants, lubricating equipment and methods of application—the prime requisites for safe, economical, positive lubrication. Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.



Pushed like a perambulator, the new Alemite Lubrikart is designed for one person operation. Dimensions: 21" wide, 55¼" long, 39" high. Mounted on six-inch Bassick ball bearing casters. It is able to travel between rows of machines or anywhere in a plant where space is limited. It saves time because of less frequent returns to the oil storage room by the oiler.

High pressure lubrication is made available by simply plugging in the electric cord. The high pressure hose and electric cord are mounted on automatic spring return reels which permit freedom of operation 20 feet in any direction. The unit is also equipped with hand operated equipment for servicing hydraulic systems, oil reservoirs, gear housings and for filling oil cans and grease guns.

Positive lubrication is assured, neglect is ended because proper lubricants and equipment are brought to the point of use. The electric high pressure pump develops 4500 lbs. grease pressure. Other equipment includes hose reel, hose and hydraulic coupler; gear lube and oil containers; compartments for oil cans; space for fittings, tools, waste, etc. Write for complete details.

American Product of STEWART WARNER

ALEMITE

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Alemite ALONE Combines all 3 in Lubrication

1. EQUIPMENT 2. PROCEDURES 3. LUBRICANTS

TEXTILE Equipment NEWS

New Machine Dyes, Sizes, Beams Continuously

A new machine for continuous dyeing, slashing, and beaming of cotton yarns has been introduced by United Steel of America, Inc., 30 Rockefeller Plaza, New York, N. Y. A prototype of the machine has been in successful and efficient operation in a Canadian mill for 7 yr.

Starting from a section-beam creel, the yarn makes three immersions in direct or sulphur dye solution, then passes through several washing and other tanks for necessary after-treatment. Provisions can also be made for use of vat dyes. After dyeing, the yarn passes over a drying cylinder, and goes to a three-immersion-roll size box, over a drying cylinder, through split rods, onto a loom beam. The machine provides an additional creel for use in slashing all-white warps, or for warps requiring both colored and white yarns, as tickings.

The manufacturer claims that 2,700 ends of 9s yarn can be processed through the entire machine at the rate of 25 to 30 yd. per min., and similar speeds are possible for other yarn and warp sizes.

All nips and immersion rolls are power driven to prevent stretch and breakage. The manufacturer can adapt the dyeing unit to slashers already installed. Floor space required is about 90 ft. by 10 ft.

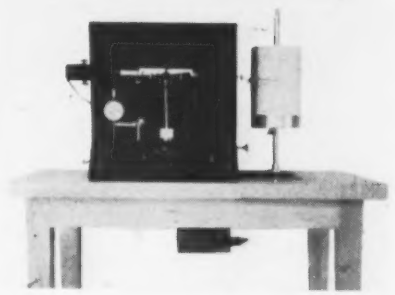
Fiber Extensometer Provides Versatility

A new and versatile apparatus for studying load elongation and other properties of single textile fibers has been announced by Harris Instruments, Inc., 1246 Taylor St. N. W., Washington 11, D. C.

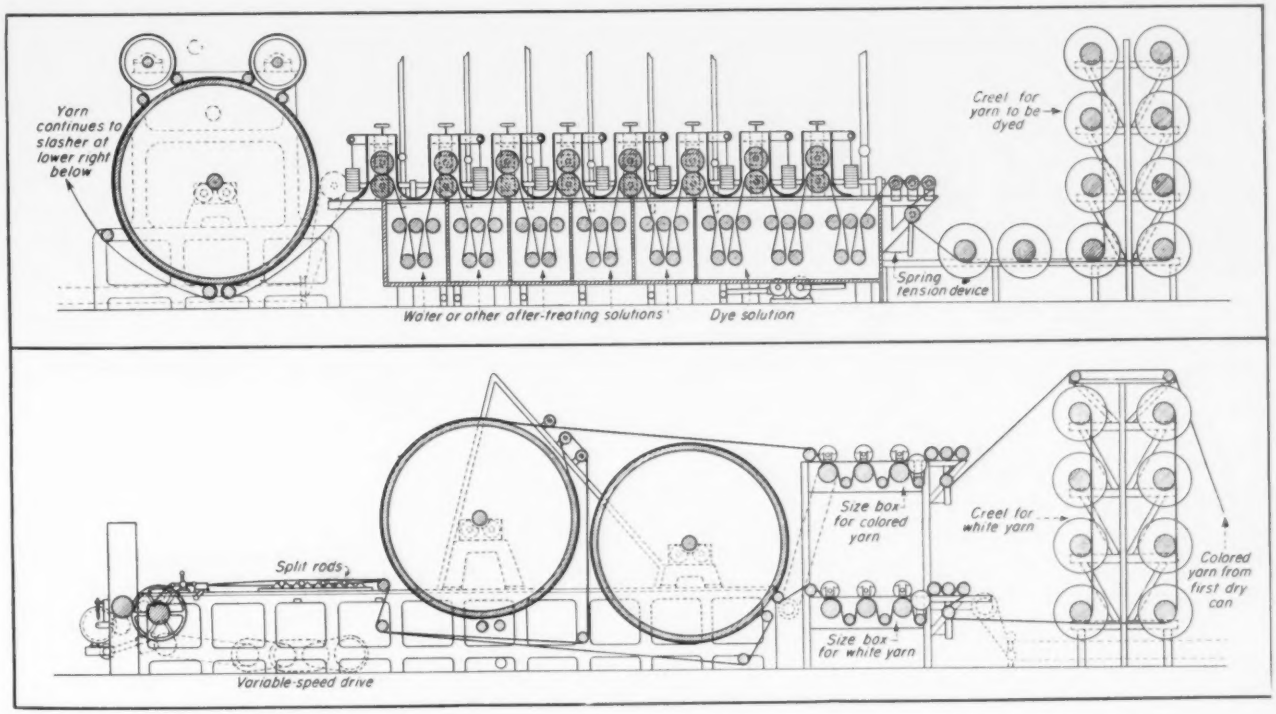
Resembling in appearance and principle an automatic Chainomatic balance, the Sookne-Harris fiber Extensometer produces an ink-drawn record of the fiber characteristics being tested and provides several ranges of loads and rates of extension.

Designed mainly for testing load-elongation properties of single fibers, it can provide, in addition, hysteresis cycles for study of ability to recover from extension, and detailed information on time-load extension properties.

The form of the record provided is suitable for the evaluation of fundamental quantities obtainable from



New Extensometer, with slight modifications, can perform many tests on fibers and fabrics. (Harris)


Yarn continues to slasher at lower right below
Creel for yarn to be dyed
Spring tension device
Water or other after-treating solutions
Dye solution
Size box for colored yarn
Creel for white yarn
Colored yarn from first dry can
Split rods
Size box for white yarn
Variable-speed drive

The machine shown diagrammatically above in two sections is normally a single, continuous machine 90 ft. long. It dyes, sizes, and beams cotton yarns in one process at 25 to 30 yd. per min. (United Steel)

load-elongation curves, as Young's Modulus, temporary set, work required to elongate to a given extension, etc.

With slight modification, the apparatus can be used for sensitive measurement of the folding properties, especially flexibility and resilience, of lightweight fabrics, or the compressional properties of pile fabrics at low pressures.

Unique Vacuum Cleaner Is Again Available

The Rexair, a vacuum cleaner which uses water to trap material picked up, is again on the market after having been discontinued during the war, according to the Rexair, Inc., representative, John C. Helies, 195 Merrick Rd., Rockville Centre, N. Y.

Vacuum cleaner deposits lint and trash into pan of water. (Rexair)

The cleaner has been found useful in textile mills since lint neither clogs up any of the mechanism nor decreases the vacuum power, because of the unique principle employed.

Instead of using a bag, the cleaner utilizes a pan of water. A high-speed motor causes a spray which wets down lint, thread, and dirt before it can foul any of the mechanisms.

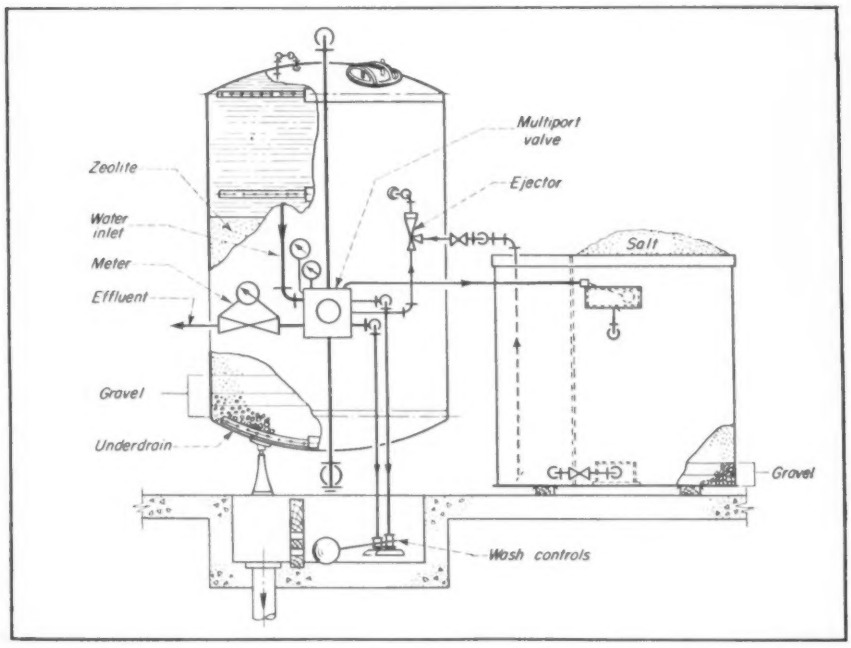
Zeolite Water Softener Features Improvements

A new Liquon zeolite water softener with several improvements has been announced by the Liquid Conditioning Corp., 114 E. Price St., Linden, N. J.

The machine employs the sodium-zeolite method of water softening, and uses a special system for distribution of the incoming water over the top of the zeolite bed. A similar system controls the flow of outgoing dirty backwash water and of incoming brine which regenerates the zeolite. An underdrain system below the zeolite bed assures efficient and unimpeded flow of the softened water.

A new type of synthetic-resin zeolite, known as Liquonex CR, is used, the greater capacity of which reduces the size of the unit required for water treatment. The new zeolite is also non-siliceous, so that it does not impart harmful silica to the treated water.

Further compactness of the machine is provided by the redesigned regenerant tank, which combines salt storage and brine solution compartments in a single container, together with measuring controls.



Improvements in construction and chemicals feature zeolite softener. (Liquid Conditioning)

Lifts Truck Accessory Handles Cotton Bales

Development of a new fork lift-truck accessory for fast, efficient handling of cotton bales and similar bulky loads has been announced by Towmotor Corp., 1226 E. 152 St., Cleveland 10, Ohio. This newest accessory is operated from the driver's seat of the lift truck, and will lift, transport, and stack a bale of cotton, or a similar load, to a height of 17 ft.

Detachable accessory for fork trucks can handle cotton bales. (Towmotor)

New Machine for Single or Double Wrapping

A new machine for single or double wrapping of rubber, plastics, wire, or other yarn-like materials has been developed by the Canister Co., Phillipsburgh, N. J.

The machine has a molybdenum-cast-iron frame, and is constructed to eliminate twisting and misalignment. The drive is from an integrally-mounted electric motor through V-belts which provide flexibility to pro-

Full Traverse!

WITH

SONOCO

STRAIGHT SIDE WARP SPINNING BOBBIN

The spindle fits the "cushion grip" with a gentle squeeze to form top-drive contact... which breaks sharp and easy without drag or pull, in doffing.

This is what you *want* in warp spinning . . . a full traverse wind, uniformly built-up on every bobbin. It saves money in longer periods between doffs, and fewer doffs mean more production.

The SONOCO Straight Warp Spinning Bobbin sets firmly on the spindle and does not ride up, permitting the "level-running" of all spindles on a frame.

SONOCO bobbins are made in 4 standard lengths and outside diameters, for varied traverse, ring diameters and angle of yarn pull.

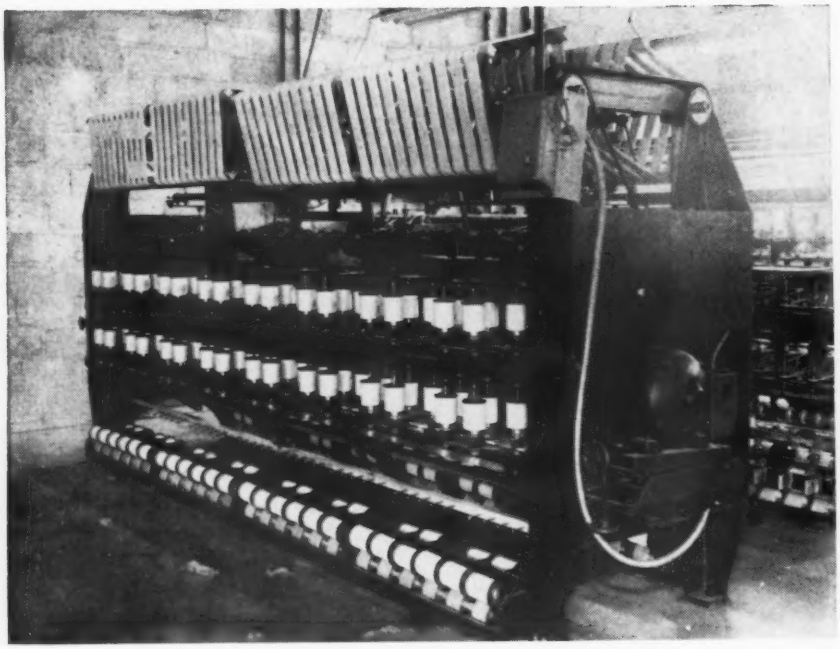
SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

sonoco — PAPER CARRIERS

REG. U. S. PAT. OFF.

DEPENDABLE SOURCE OF SUPPLY



Flexibility of application and sturdiness of construction are featured by new wrapping machine. (Canister)

tect the motor and long shafts against shocks. Economical changes of speed are provided by changing two inexpensive V-pulleys.

Spindle speeds are adjustable from 1,000 to 15,000 rpm. by quick changing of gears and pulleys. Micro-adjustment of speed between upper and lower shafts is attained by simple movement of a control. Spindles are adaptable to any size spool by slight change; and the construction of the spindle simplifies cleaning, lubricating, and assembling.

The machine is controlled through four remote-control, push-button, starting-and-stopping switches. All hazardous drives are fully protected.

Water Demineralizer Operates Electrically

A new water demineralizer, the "Filt-R-Stil," designed to transform ordinary water into the chemical equivalent of distilled water, has been developed by the Ion Exchange Products Department of American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y. The machine is available in capacities from 8 to 1,200 gal. per hr., and requires no heat, no steam, no auxiliary equipment, and extremely low amounts of electricity. The unit illustrated has a capacity of 60 gal. per hr.

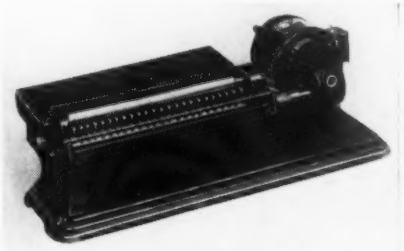
The demineralizer operates on the principle that water having a resistance of 50,000 ohms contains not more than 10 parts per million of ionized solids. The purifying unit consists of a number of columns containing alternate beds of "ionac" cation and anion exchange resins. As the water passes through the columns in series, the cation resin transforms the dissolved salts present in the raw water into acids, and the anion resin then absorbs the acids. Because of the particular properties of "Ionac" resins, water free of carbon dioxide can also be delivered without auxiliary deaeration equipment.

Anion and cation exchange resin, which can be regenerated indefinitely, are used to purify water for textile operations. (American Cyanamid)

If the electrical resistance of the water falls below 50,000 ohms (for 10 ppm. of impurities), a red light on the controller glows, indicating that the resins have used up their capacity for demineralization. They can then be regenerated by rinsing with dilute acid and alkali solutions, followed by water. The resins are then ready for re-use, and the cycles of regeneration can be repeated indefinitely.

If a higher-quality water is desired, the setting on the controller is easily changed to actuate the red light when the water falls below the desired higher resistance. The maximum setting on the standard controller is 500,000 ohms (equivalent to about 1 ppm. of dissolved solids).

Until the resins become exhausted, the machine may run unattended for long periods. A specially developed valve on each column controls the flow of all liquids into and out of that column. Regeneration of the unit merely involves moving a dial on each valve to the proper position in the proper sequence during regeneration and rinse.



Motor-driven gummer handles labels of any length up to 8½ in. in width. (Diagraph-Bradley)

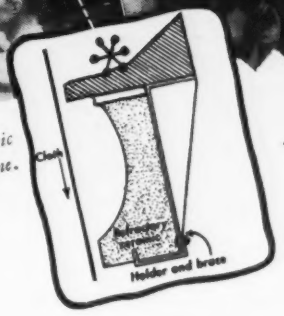
Motor-Driven Label Gummer Again Produced

Diagraph-Bradley, a division of the Diagraph-Bradley Stencil Machine Corp., 3745-55 Forest Park Blvd., St. Louis 8, Mo., is again in production on their motor-driven Stikfast label gummer. The gummer takes labels of any length, up to 8½ in. in width, and has an adjusting screw for determining the amount of glue that is put on the back of the label. Almost any type of adhesive may be used.

The machine is hand fed, has a 1/20-hp. motor, and is back-geared with gear reducers built into the motor. Ease of cleaning is featured, and parts are of bronze or stainless steel.

PRINT-SPEED DRYING OF RAYON AND ACETATE FABRICS WITH GAS

Infra-red GAS burners dry fabric as it leaves the printing machine.



← *Gas-fired Radiant Ceramic Burner is curved to throw the heat rays toward the fabric.*

Synthetic and natural fabrics alike respond to the rapid drying action of Gas-fired infra-red ceramic dryers. And, since they are so readily controllable the productive flames of GAS can be regulated for efficient drying of textiles, regardless of weight or drying characteristics.

The experience of Waldrich Company, Delawanna, New Jersey is typical of textile productioneering with Gas-fired ceramic dryers manufactured by Carbomatic Corporation, New York City. When installed under the frame of a palmer unit and between the quetch-box and drybox as a booster, Carbomatic infra-red ceramic dryers increased operating speeds and resulting production.

Increases of 50 per cent and more in acetate and rayon fabric drying speeds are common when modern Gas Equipment is applied in textile operations. Color fastness is improved and print smudging prevented because the dryers are synchronized with the printer to set the dye as the fabric leaves the machine.

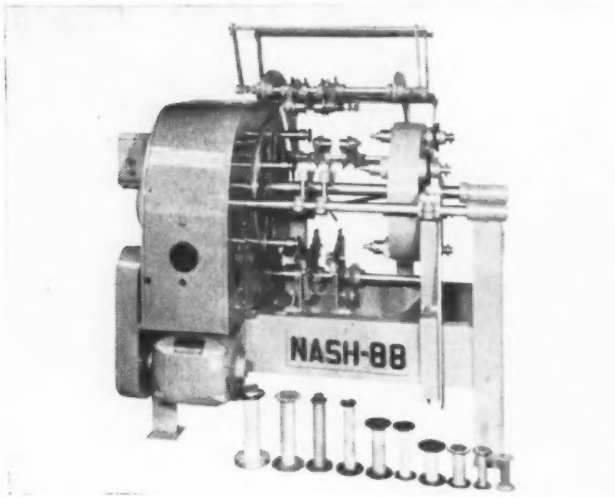
GAS is the ideal fuel for drying, singeing, warp sizing, calendering and other textile operations. Your local Gas Company's Industrial Representative will furnish you the latest information on the flexibility and economy of GAS for textile processing.

Rayon and acetate fabric dried by Infra-red ceramic GAS burners.

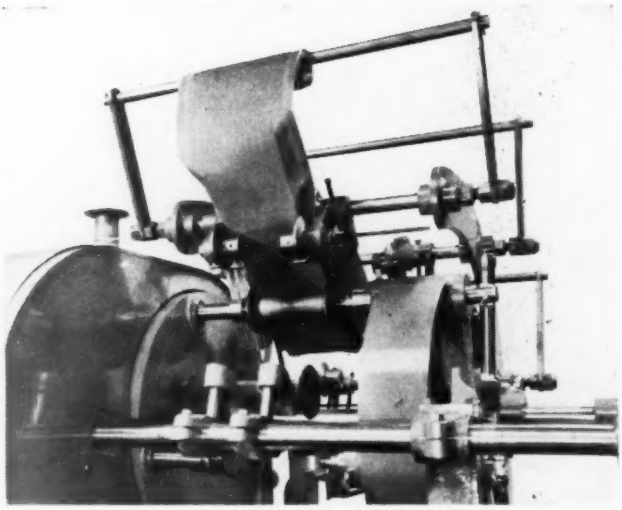
MORE AND MORE...
THE TREND IS TO GAS
FOR ALL INDUSTRIAL HEATING

AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE, NEW YORK 17, N.Y.



Nash bobbin refinishing machine features automatic operation at rate of ten bobbins per min., assuring uniform results on almost any type bobbin.



Bobbin, centered between headstock and tailstock, is revolved in contact with abrasive cloth pre-formed to shape of barrel and head.

BOBBIN REFINISHING Machine Gives Low-Cost, Uniform Results

HIGHLIGHTS: *Hard hand work eliminated—Ten bobbins per minute refinished — Five operations assure complete and uniform results—Easy to set up and maintain.*

RAPID AND UNIFORM REFINISHING of bobbins on a definite schedule, and elimination of slower hand-refinishing operations are enabled by a new, automatic machine introduced by J. M. Nash Co., 2360 N. 30th St., Milwaukee, Wis. Resembling a larger machine used for many years by rayon manufacturers, the new bobbin refinisher is designed for small-lot refinishing operations in rayon and other mills having problems arising from rough bobbins and non-uniform hand-refinishing.

The new No. 88 refinisher will perform all refinishing operations at the rate of ten bobbins per min. Bobbins are hand-fed continuously into the centering wyes, are picked up by headstock and tailstock centers, and are revolved through five refinishing stations. A stationary pickup-and-release feature assures accurate centering action and motionless release when the bobbin drops from the machine.

QUALITY REFINISHING. Uniformity of finish and minimum material removal in relation to condition of the bobbins are possible when using the No. 88 refinisher. During the process of refinishing, the bobbins go through the following steps:

1st Station—Abrasive cloth sanding of barrel, inside of flanges, and top radius for flanges.

2nd Station—Same as first station, using finer grit of abrasive cloth.

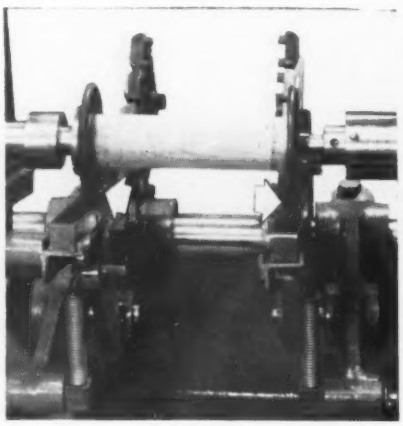
3rd Station—Canvas burnishing of barrel, inside of flanges, and top radius of flanges.

4th Station — Steel-burnishing, inside portion of flanges.

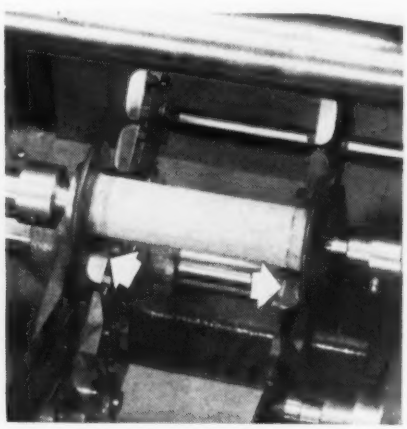
5th Station—Steel-burnishing, top radius of flanges.

Abrasive cloth is processed and preformed to conform to contour of bobbin. Brushes and pads are used for back-up and for applying yielding pressure. Canvas is used for burnishing the barrel of the bobbin and also acts as a preliminary burnishing agent for the flanges. The flanges receive a final steel-burnishing to assure a highly polished surface on the inside portion of the flanges and the top radius.

(Continued on page 150)



Burnishing shoes steel-burnish the top radius of the flanges. Tapered groove in shoes insures contact of flange-rim with shoe, regardless of shape of the rim.



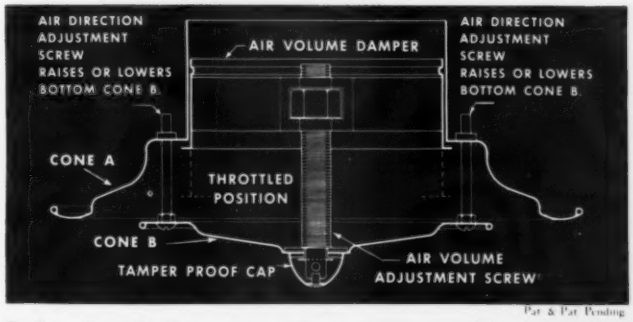
A series of four fingers accomplishes a steel-burnishing operation on the inner surfaces of the flanges by friction to polish the flange and iron out surface irregularities.

James Lees and Sons uses Adjustable Air Diffusers to increase plant efficiency

Kno-Draft Adjustable Diffusers offer the following advantages to textile engineers: (1) draftless diffusion at high velocity, (2) easy adjustability of each unit for control of air direction and volume and (3) easy cleaning due to simple construction. Installed on supply ducts centered between machines, they satisfy the cooling requirements of an area while maintaining even temperatures between machines. Or, located over spinning machines, for instance, the cooled air may be directed to "blanket" the source of heat generation. In both cases, no drafts occur and no threads are blown, because the air is directed and thoroughly diffused.

With the adjustment features, engineers can correct for unforeseen conditions which become apparent only after installation has been completed. Or they can make necessary adjustments to accommodate machinery relocation, partial shutdowns and other plant changes.

Adjustable air diffusion also cuts operating and installation costs. The use of much colder air, at higher velocities than grilles, louvres or slotted ducts can handle, means smaller quantities of air to condition, smaller ducts and simplifed duct layouts.

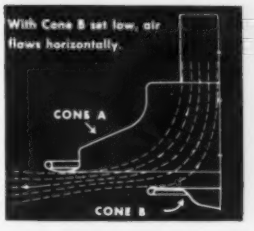

AIR DIRECTION ADJUSTMENT SCREW RAISES OR LOWERS BOTTOM CONE B.
AIR VOLUME DAMPER
AIR DIRECTION ADJUSTMENT SCREW RAISES OR LOWERS BOTTOM CONE B.
CONE A
THROTTLED POSITION
CONE B
TAMPER PROOF CAP
AIR VOLUME ADJUSTMENT SCREW

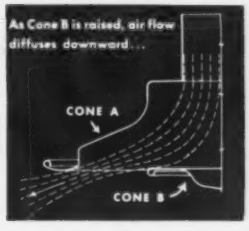
Pat. & Pat. Pending

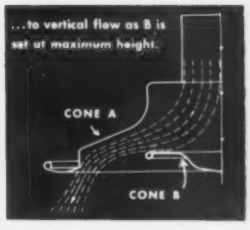
Easily adjusted, sleeve type volume damper regulates outlet aperture uniformly. At constant static pressure, neither outlet velocity nor diffusion pattern is affected.

Any angle of air discharge—from vertical to horizontal—needed to accommodate ceiling heights and other plant requirements can be obtained by raising or lowering bottom cone B.

In the Glasgow, Va., plant of James Lees and Sons Company, scientific diffusion of light and air is utilized to increase production and improve employee health and morale. Both air direction and volume have been adjusted in each of the Kno-Draft Diffusers in the spinning room above to accommodate the ceiling height, heat generation and other requirements, such as machinery layout. Room and supply air are thoroughly mixed in an area well above the machinery and workers. Temperature and humidity are equalized throughout the room. Drafts, hot and cold spots are eliminated.







FREE HANDBOOK: Contains sketches, charts, dimension prints and instructive text that simplifies the selection and installation of air diffusers. For your copy, please write Textile Division, W. B. Connor Engineering Corp.

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112 East 32nd Street — New York 16, N. Y.

AIR DIFFUSION
AIR PURIFICATION
AIR RECOVERY

Representatives in Principal Cities • IN CANADA: Douglas Engineering Co., Ltd., 1405 Bishop Street, Montreal 25, P. Q.

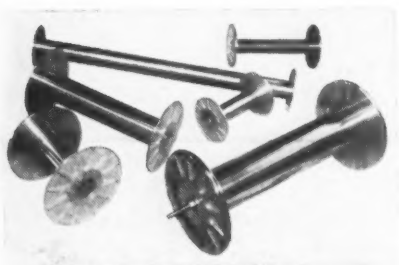
(*Continued from page 148*)

SHORT SET-UP TIME. The refinishing rack, burnishing fingers, and burnishing shoes are designed to permit rapid change-over from one type bobbin to another. Abrasive cloth is processed in individual pre-form adapted to length of barrel between flanges and height of flange from barrel. Brushes and pads are supplied for same specifications. It is a simple and rapid procedure to insert proper abrasive cloth and brush-pad assembly. The tailstock wheel is also adjustable on the shaft to arrange for different-length bobbins. Eccentric crimp collars are adjustable to carry abrasive cloth to proper depth for both barrel and flange sanding. Burnishing shoes have adjustment laterally and for height.

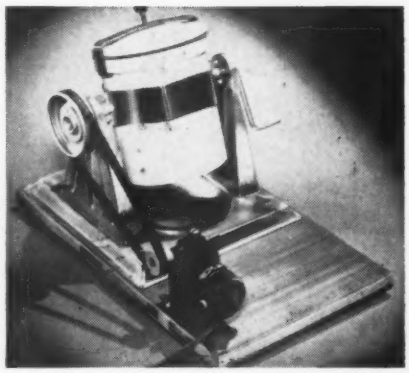
LOW MAINTENANCE. Negligible maintenance is claimed for the refinisher. The frame is of welded-steel construction with cast-iron headstock and tailstock wheels. Spindles are ball-bearing equipped and are driven by two V-belts. All gears and worms are precision-machined and jig-mounted for accurate alignment. The abrasive cloth will average from 500 to 1,200 bobbins before it must be changed. In order to present a new sanding surface on the abrasive cloth, all that is necessary is to loosen eccentric paper clamps, pull down abrasive cloth 3½ in. and cut off worn portion. Abrasive cloth is carried in rolls on cross bars. Brushes and pads act only as pressure fingers and, therefore, have considerable life.

Continuous Welded Aluminum Beams Offered

A new line of light metal beams has been introduced by the Milton Machine Works, Milton, Pa. The range offered includes tricot beams with 13¾- and 21-in. diameter heads and sections beams with 27- and 30-in. heads. Both types can be furnished to meet specific length requirements. All beams feature improved welded aluminum construction.



Light-metal beams and spools for many purposes are available in new line. (Milton)



Laboratory machine for fastness tests is motor driven. (Andrew)

Tumble-Jar Tester In Motor-Driven Model

A new addition to the Tumble-Jar family, manufactured by Andrew Technical Service, 111 E. Delaware Place, Chicago, Ill., is a motor-driven model. Powered by a gear-reduction motor, it rotates a glazed chemical-stoneware jar, 6 in. diameter by 8 in. high, at a speed of approximately 55 rpm.

The jar has a reinforced rim and stoneware cover which fits tightly against a soft-rubber gasket by means of a metal clamp, making it leakproof in use.

The unit is applicable to research operations and tests on chemicals and dyes, and has been used by the U. S. Quartermaster for water-repellency, dyeing, and laundry tests on fabric swatches.

Overall dimensions are 14x22 in. by 15 in. high, and the motor operates on 115 v. a.c. or d.c.

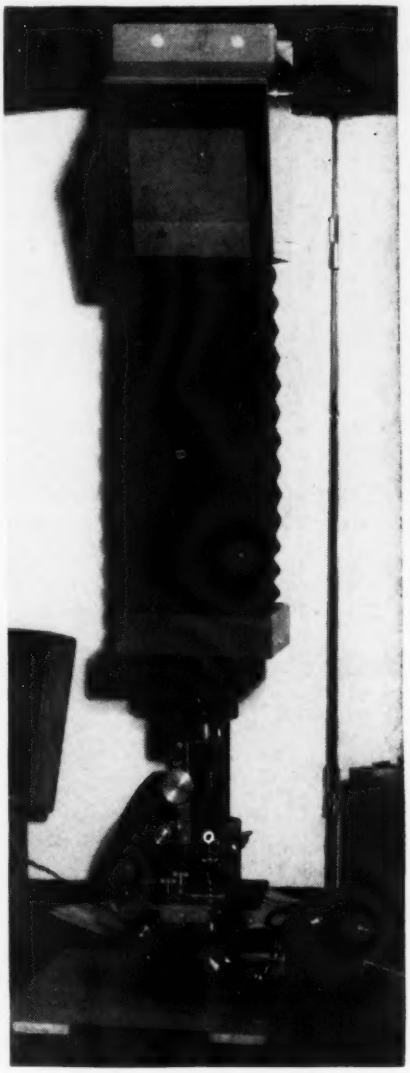
Microscope Camera Has Reflex Feature

A mirror-reflex camera for taking photomicrographs with any size or type microscope up to the largest research types has been announced by Gamma Instrument Co., Inc., 95 Madison Ave., New York 16, N. Y. Called "Microflex", the camera is designed with the ground-glass focusing screen on the front side to enable the observer to select and focus the image without leaving his place at the microscope. The screen is reported to be so protected against stray light that the camera does not require a darkened room for operation and so designed that it can be viewed simultaneously by a small group of persons.

The complete Microflex assembly is mounted on a heavy steel base, 10x11 in., which is equipped with clamps to hold the microscope in position. The camera, consisting of the mirror-reflex housing, the 20-in. extension bellows, and the lensboard with shutter, slides along a 36-in. rotating upright. The mounting is designed to allow the camera to be swung aside and returned to its original position.

A spring-board mounting for the entire assembly is available for use in locations subject to vibration or shocks.

The camera is designed for use of 4x5-in. film or plate holders.

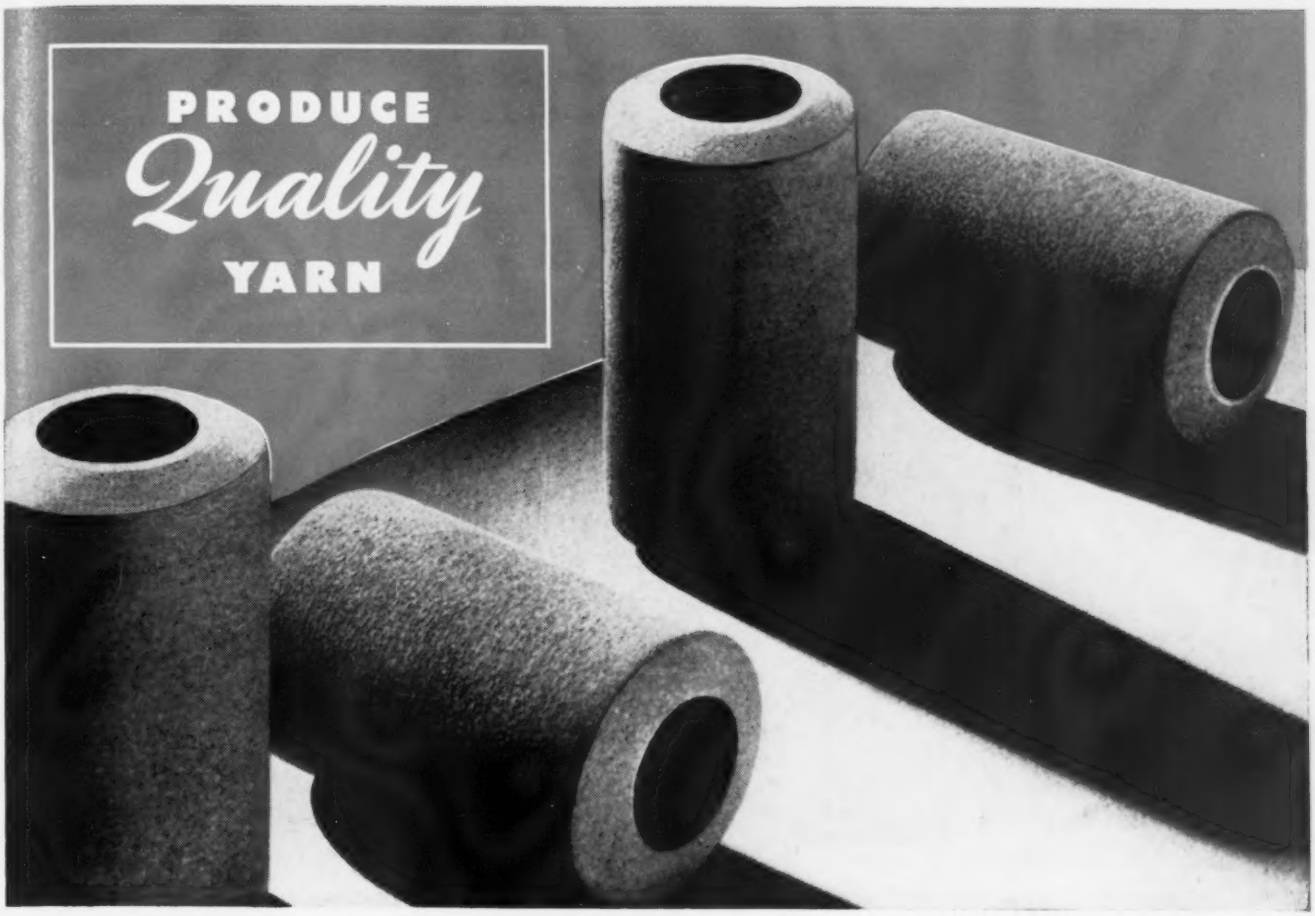


Mirror-reflex photomicrographic camera features focusing screen located on front of instrument. (Gamma)

Buffer Positions Shuttle And Prevents Rebound

A new buffer for braking and positioning shuttles has been announced by Zama, Ltd., of Zurich, Switzerland. This buffer was exhibited at the recent Swiss Industry Fair at Basle, and was partially described in the June issue of TEXTILE WORLD, page 139.

Employing the principle of the hy-



ARMSTRONG'S CORK COTS DRAFT UNIFORMLY

You get a true drafting surface that won't slick up when you run on Armstrong's Cork Cots. Their highly frictional, seamless surface grips the yarn evenly. That's why these superior roll coverings draft uniformly, produce top-quality yarn throughout their long life.

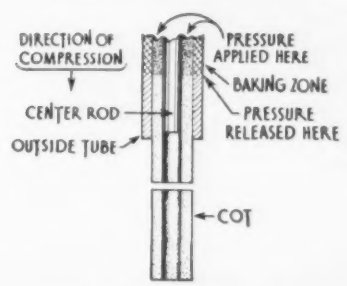
This high coefficient of friction eliminates eyebrowing, too. Armstrong's Cork Cots reduce clearer waste as much as 50%—and place it back on the clearer boards where it belongs. This means cleaner work and less clearer picking.

Armstrong's Cork Cots are also exceptionally resilient. They recover quickly from most laps or hard ends. They give you fewer ends down per thousand spindle hours, so your operators do less piecing up. They won't flow under roll weighting.

Low in first cost, Armstrong's Cork Cots have a long initial service life. When they do show wear, they can be rebuffed for 3 or 4 extra service lives.

Ask your Armstrong representative for samples, prices, and complete information. Or write today to Armstrong Cork Company, Textile Products Dept., 8308 Arch St., Lancaster, Pa.

EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS

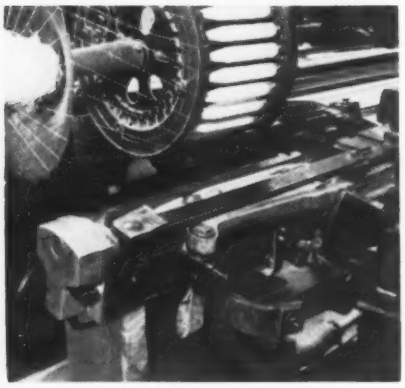


Armstrong's Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger yarn, lasts longer.

Better running work . . . more poundage

ARMSTRONG'S CORK COTS

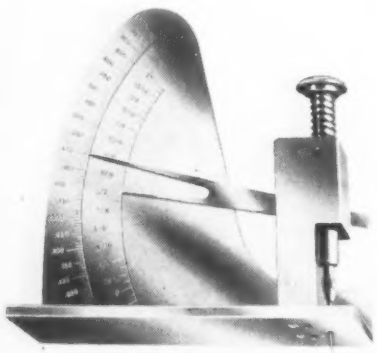
ACCOTEX COTS • ACCOTEX APRONS



Hydraulic buffer positions shuttle at same identical place for each pick. (Zama)

draulic recoil, the braking force is said to automatically adjust itself to the force of the shuttle, however changeable this force may be, and to stop the shuttle at the same identical point in the box at the end of each pick. It is claimed that use of the device reduces wear of shuttles, and may increase production through higher operating speeds.

The device will probably be available in this country in about eight months.



Thickness gage, using a slender needle which penetrates the felt, permits measurements in the middle of piece. (American Felt)

Thickness Gage Measures Felt

Accurate thickness measurements in the middle of a large piece of felt are reported to be made possible by a newly developed gage announced by American Felt Co., Glenville, Conn. When the gage is placed on the top surface of the felt, a slender needle is pushed through until it comes to rest on a metal plate beneath; the amount of travel of the needle registers simultaneously on two scales and shows the thickness in fractions of an inch and in decimal parts. The slender needle reputedly passes through the felt without damaging it.

Detwisting and Detacking Machines Use Electric Eyes

A new and completely automatic range for detwisting, detacking, opening, and squeezing has been introduced by the Cook-P&N Machine Co., 365 Dorchester Avenue, Boston 27, Mass.

The detwister unit makes use of electric-eye controls for removal of either right or left twist. Two photoelectric cells are placed between the detwister and the opening medium on one side of the cloth, and light sources are on the other side of the cloth. When a twist appears and allows the first light to pass the edge of the cloth, the motor on the detwister starts in a clockwise rotation, removing right-hand twist. If the twist is left hand, this clockwise rotation will be continued until the second light passes the edge of the cloth, then the detwister will automatically be reversed and will rotate in a counter-clockwise direction until all twist is removed. When the cloth is flat and straight, both lights will be blocked and the detwister stopped.

Because ordinarily twist is predominantly in one direction, a directional switch is supplied that will cause the first light to operate for a left-hand twist rather than a right-hand twist, thus saving time, power, and general wear on the equipment.

Immediately after the cloth passes the automatic detwister control, it passes by an automatic detacking machine, where the tacking thread is pulled out. This unit features automatic synchronization of the cloth travel to the thread pulling, and an automatic stop for the complete range of machinery if a skip in the tacking is encountered.

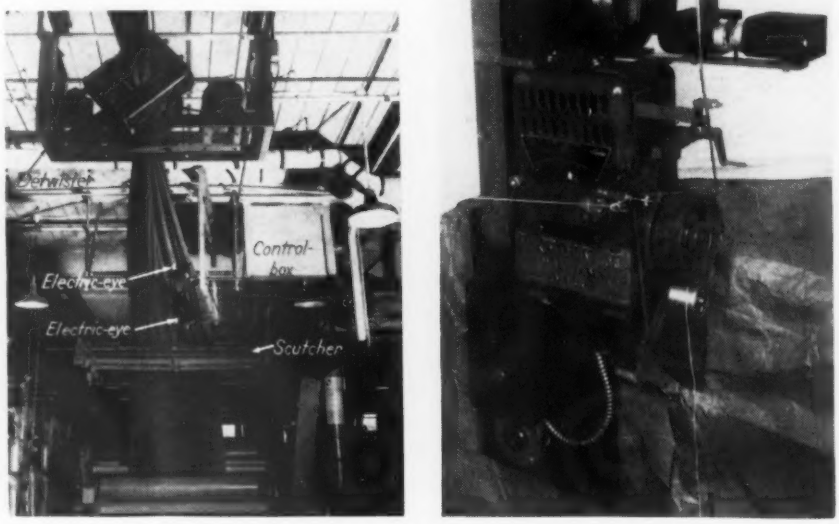
The cloth then travels to a scutcher where it is opened to full width, after which it is extracted by a pneumatic squeezer.

Unit Dries Samples In 2 to 3 Min.

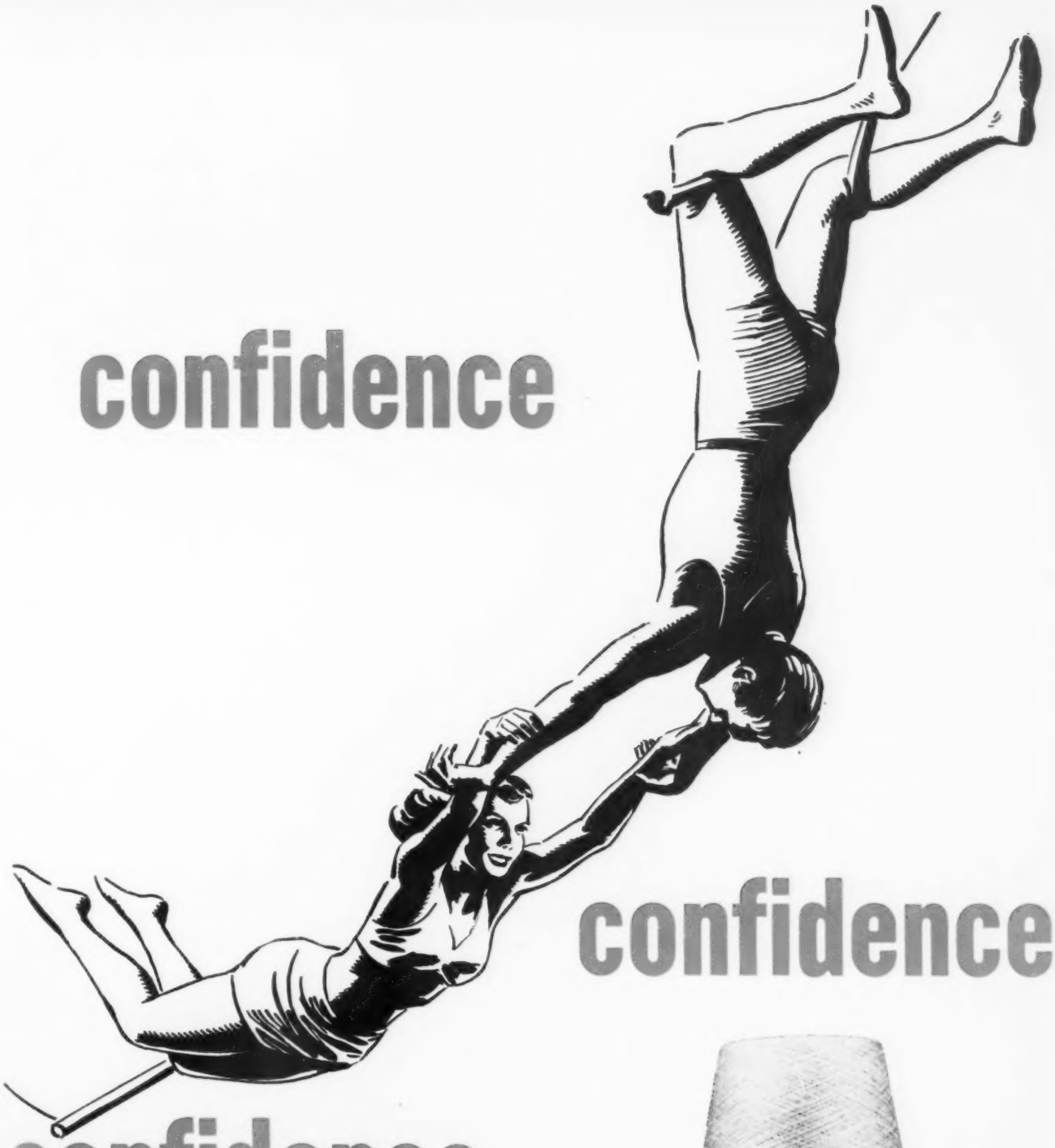
A quick-drying moisture-determination unit for either plant or laboratory use has been made available by Harry W. Dietert Co., 9330 Roselawn Ave., Detroit 4, Mich. The Model 278 Moisture Teller unit will receive an 8-in. diameter drying pan. Pans of 1-, 2-, 3-in. depth may be used; this allows for flexibility in the selection of sample size.

Automatic temperature control is provided ranging from 150° F. for materials sensitive to drying temperatures, up to 300° F. for drying materials that require higher temperatures. The unit is provided with a heavy-duty ball-bearing motor and fan. The air is driven past large-size wire heat resistors which heat the air to the drying temperatures selected. The heated air is then forced through test samples and passes through the monel-metal filter-cloth bottom of the sample pan.

Most samples can be dried within 2 to 3 min. it is reported. The sample is weighed before and after drying to obtain a precise moisture percentage reading. The No. 278 Moisture Teller is designed for continuous operation



The detwisting machine (left) and detacking machine (right) operate automatically in conjunction with each other and other machines in this range. (Cook—P&N)



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with minimum maintenance. It is available for either 115- or 230-volt electric power.

Also announced by the Dietert company is a high-temperature laboratory combustion furnace, called Hitemp, with a maximum operating range of 2,900° F. The furnace is an integral unit requiring only connection to a 220-v. outlet. An electronic automatic temperature controller is provided; the unit is equipped with a combination disconnect switch and circuit breaker to protect against overloads.

Quick-drying moisture-determination unit will accommodate large sample in 8-in diameter pan. (Dietert)

Welded-Steel Handtruck Handles 500-Lb. Load

A new handtruck featuring an all-welded-steel construction, rubber-tired ball-bearing wheels, and a large noseplate to facilitate easy loading has been announced by the Sage Equipment Co., 110 Auburn Ave., Buffalo 13, N. Y. The truck is said to be the forerunner of a full line of materials-handling equipment which will include gravity wheel conveyors, portable power boosters, and casters.

Comfortable grip handles of curved ¾-in. pipe, and curved or straight back, are reported to add ease of handling of loads up to 500 lb. Over-all height of the truck is 51 in.; it is 19½ in. wide at the top and 14½ in. wide at the

All-welded-steel handtruck designed for 500 lb. has comfortable grip handles and rubber-tired ball-bearing wheels. (Sage)

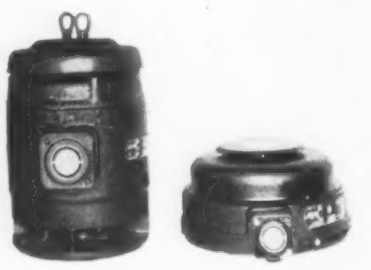
nose. Weight is 43 lb. The welded-steel construction reportedly provides tremendous strength and adds greatly to the useful life of the truck.

Light, Compact Motor Utilizes New Principle

The Axial air-gap electric motor, radical in design and principle, has been introduced by Fairbanks, Morse and Co., Chicago, Ill.

In the new-type motor, magnetic lines of force follow a path parallel to the shaft (or axis of rotation), as compared to a radial path taken by the magnetic flux in the conventional motor.

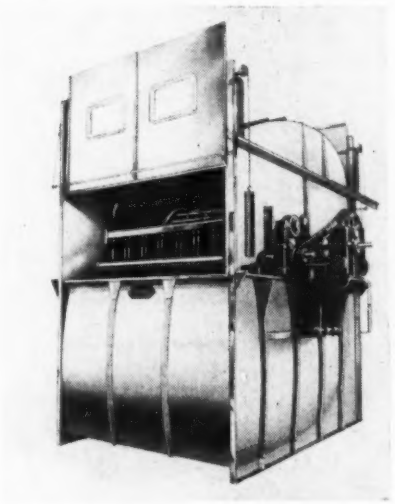
Outstanding advantages are space and weight reduction. The new motor is less than half the size of the conventional type motor, and weighs about 30% less. It retains all necessary characteristics of sturdiness and speed as well as simplicity of inspection, lubrication, and cleaning. The motor is reported to run cool.



New Axial Air-Gap motor (right) is less than half the size, and about a third the weight of conventional motor (left). Both motors shown are 5 hp., 1,800 rpm. (Fairbanks, Morse)

Scouring, Washing, Dyeing Operations Combined

A new combination machine for scouring, washing, and dyeing without removing the goods has been announced by the Rodney Hunt Machine Co., Orange, Mass. The machine is of all stainless-steel construction and is said to be especially advantageous for plants handling light weight woolen and worsted fancy goods and blends. Wring-Master pneumatic controls are provided for regulation and exertion of maximum pressures for most effective washing, and prevention of damage to fine goods.

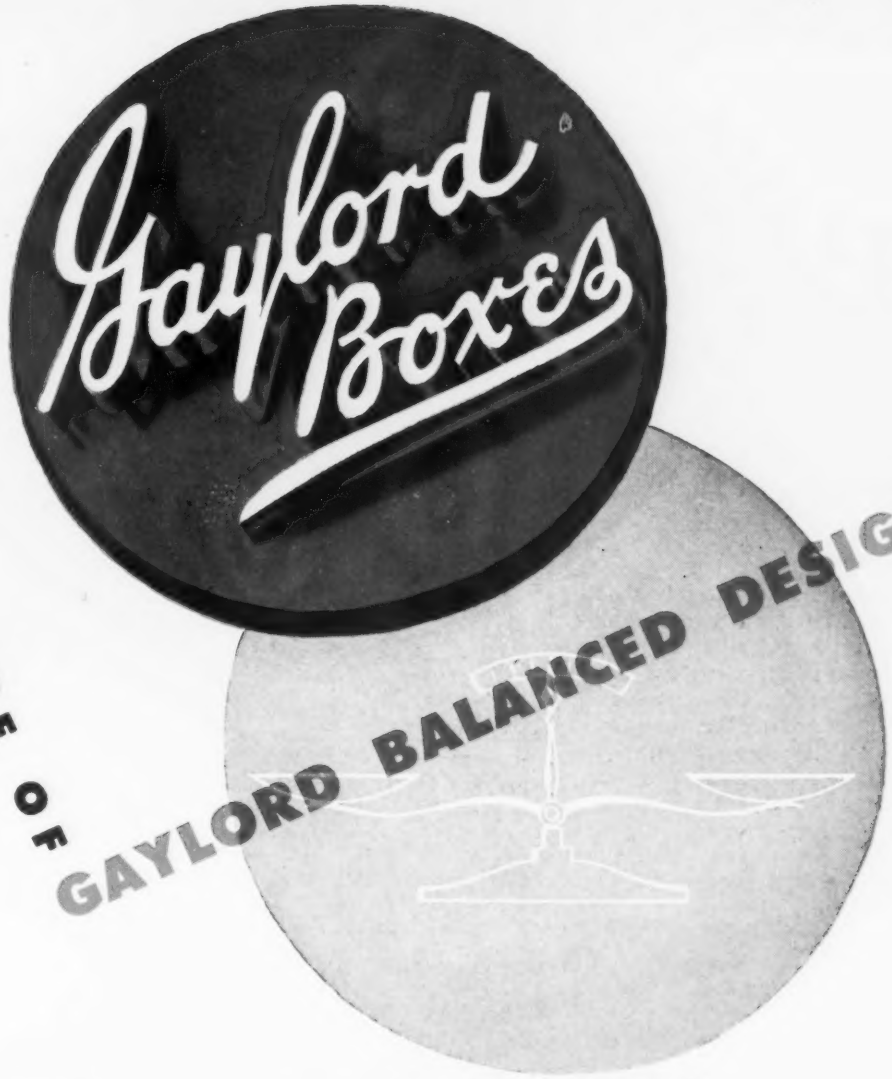


New combination machine allows continuous and varied finishing operations without removal of fabric. (Rodney Hunt)

Tow-to-Yarn Spinning Frame Developed

A new-type spinning frame for making spun-rayon yarn from continuous-filament rayon tow has been developed by Medley Mfg. Co., Columbus, Ga. Combining the functions of fiber-breaking, drafting, and spinning, the new machine may well revolutionize

Textile Equipment News
(Continued on page 218)



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Kinks AND SHORT-CUTS

Separating Pins Prevent Shady Filling

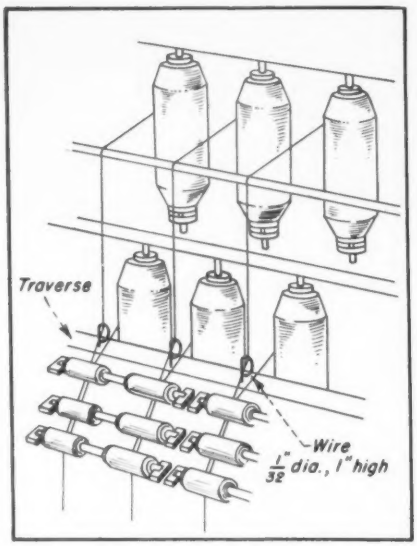
★*Prize Winner for August*
(June contest)

We run quite a few mock-twist filling yarns and have found that we obtain defective shaded filling when the roving end from the bottom creel board of the spinning frame is allowed to run on both sides of the roving end coming from the top creel board.

If a split trumpet is used to keep the two ends separated until they are taken by the back drafting roll, the trumpet becomes clogged with lint and causes one of the roving ends to switch places in the trumpet, thus defeating the purpose of the split trumpet. Furthermore, a spinner, in creeling, often gets an end of roving on the wrong side of the trumpet; and creeling with split trumpets takes too much time in threading up the trumpets.

We have solved this problem of keeping the roving ends of mock-twist filling separated by using the separating pins shown in the accompanying sketch.

A piece of wire 1/32 in. in diameter is bent in the shape of a loop, as shown in the sketch. A hole 1/32 in. in diameter is drilled in the back cap bar (or the cap-bar rod, depending on the type of frame) directly behind the left-hand end of the top-roll cot. This hole is drilled to a depth of approximately ¼ in.



Shady mock-twist filling results from permitting the two ends of roving that go into the same spinning end to cross each other before they reach the drafting rolls. The use of separating pins, shown here, will eliminate this trouble. The pins, made of 1/32-in. wire looped as shown, stand about 1 in. high.

The unbent end of the looped wire is inserted in this hole, and the looped end of the wire is turned toward the roving end feeding from the top creel board. The looped wire should stand about 1 in. above the back cap bar. A hole must be drilled and a looped wire inserted for each end on the spinning frame.

To use these wires, the spinner creels in a bobbin of roving on the bottom creel board and throws the strand of roving over the pin. The pin will keep the two roving strands separated.

We have found that the use of these separating pins not only significantly decreases our shady mock-twist filling, but it also decreases the work involved in creeling, thus giving the spinner more time to attend her other duties. (K-703) *C. G. Jenkins, Columbus, Ga.*

Spring-Needle Oiler Aids in Clearing Stitches

Clearing the stitches from spring needles is often a source of trouble in some knitting mills. This problem is likely to occur when stockinet or a similar type of fabric is being knitted on a machine such as the Tompkins & Crane spring-needle machine. The trouble is caused primarily by the necessary heavy loading of the gage. Because the yarn excessively fills the needles, there is difficulty in clearing the stitches. This condition results in tucks and, in extreme cases, smashes.

Much of this type of damage can be avoided by the use of the needle oiler shown in the accompanying sketch. Any good needle lubricant, used in this oiler, will reduce or remedy the fault. However, the use of the oiler is recommended only as a "trouble-shooting" device for use in occasional instances when poor lots of yarn are received. The oiler will not substitute for emulsion treatment during the winding operation where such treatment is needed.

The key points in the construction of the oiler are:

1. Felt applicator. The felt used

A $25 SAVINGS BOND FOR YOUR IDEA

A $25 SAVINGS BOND will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person may make.

Contributions must be received not later than the last day of the month to be eligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety, cutting costs, improving quality, speeding up production; in brief, any little device, stunt, kink, or short-cut which you have tried out in your own mill and which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operation. Previously published material is not eligible for the award. Judges of contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submitted. Items which are accepted will pe paid for at regular rates for this type of matter with an extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Please advise whether your name may be used with the kink.

Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd Street, New York 18, N. Y.

KINKS AND SHORT-CUTS CONTINUED ON PAGE 159

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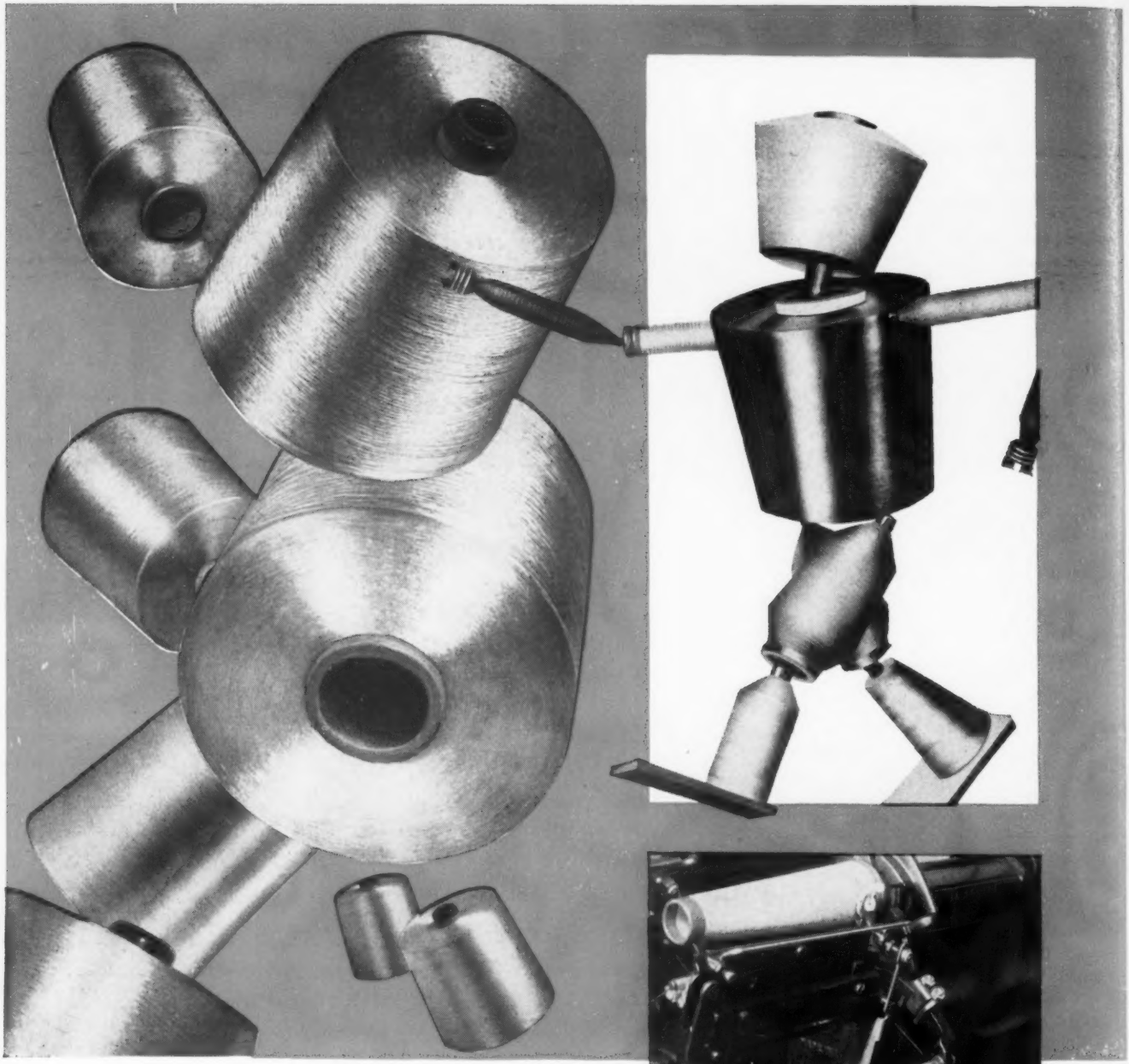
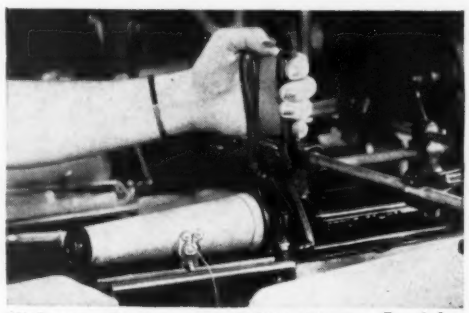


Better packages with POSITIVE SIZING. The winding of uniform packages is insured by the Positive Sizing Attachment. It is so sensitive that it will stop the machine within one yarn layer of predetermined full package diameter.



Higher production with SLOW START. Straight-Belt Drive—with individual spindle control—permits the operator to bring the winding package up to speed *gradually*. Smooth, slow starting eliminates strain on the yarn and reduces end breakage.

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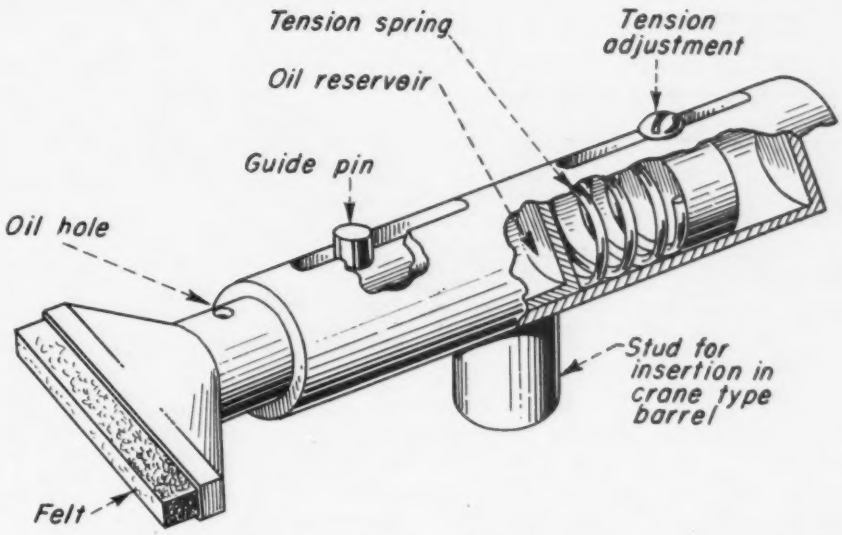
KINKS & SHORT-CUTS

(Continued from page 156)

should be of sufficiently firm texture to prevent the metal part of the oiler from coming into contact with the needles. The felt, when it becomes worn, will assume the contour of the cylinder.

2. Oil reservoir. On fabrics that throw off a great deal of fugitive fibers (flock), tapping the filler hole and inserting a screw will prevent clogging.

3. Guide pin. The guide pin and slot should be fitted so that the felt applicator has a minimum of vertical play at the needle line. Snagging the felt or bending the needle beards can be prevented in this manner. (K-706) *Albert M. Young, Jr., Philadelphia, Pa.*



If excessively heavy yarn, which has not been treated with an emulsion, is being knitted on a spring-needle machine, clearing the stitches from the needles may be aided by the use of a good lubricant in this oiler. Firm felt, with a minimum of vertical play, should be used on the end of the oiler.

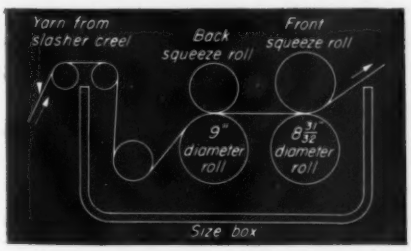
Reduce Warp Stretch By Cutting Down Roll

During the slashing operation, there is a tendency of the yarn to slip a small amount as it passes between the back squeeze rolls in the size box. This slippage is particularly apt to occur on slashers not equipped with special drives for the section beams.

Since the back squeeze rolls have a harder pulling job to perform than do the front squeeze rolls, there is naturally more slippage of yarn at the back rolls than at the front. Such a condition, of course, results in the yarn being stretched between the two sets of squeeze rolls.

To prevent this stretch, it is necessary to slow down the effective surface speed of the two front rolls to compensate for the slippage between the two back rolls. We accomplish this result by slightly reducing the diameter of the bottom, positively driven front roll.

We have found that by reducing the diameter of this roll from 9 in. to 8 31/32 in., or in some cases to 8 15/16 in., we are able to compensate for yarn slippage. Thus, we retain some of the elasticity that we would otherwise lose. (K-704) *H. L. Camp, Kershaw, S. C.*



One method of reducing warp stretch on a slasher is to reduce slightly the diameter of the bottom front squeeze roll. In this manner, the effective surface speed of the front roll is slowed down to compensate for the slippage of yarn between the back rolls.

Lever and Fulcrum Aid in Moving Stirrups

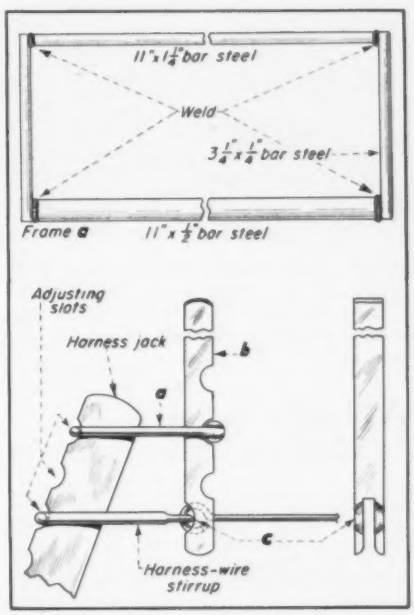
When putting in a new warp, a loom-fixer cannot always tell just where to place the harness-wire stirrups on the harness jacks in order to produce the proper size warp shed. After a few picks are woven, it may be necessary for the fixer to change the stirrups from one slot to another to increase or decrease the size of the shed.

A lifter, such as the one shown in the accompanying illustration, will simplify the task. The lifter consists of two pieces, frame *a* and lever *b*.

To make frame *a*, secure two 3¼-in. lengths of ¼-in. bar steel, one 11-in. length of the same steel, and one 11-in. length of ½-in. bar steel. Weld the pieces together in the shape of a rectangle so that the outside dimensions of the rectangle are 11¼x3¼ in. The inside dimensions will be 11x2¼ in.

Lever *b* is made from a 11¼-in. length of ½-in. bar steel. One end of this piece is slotted sufficiently wide to permit a harness wire to enter the slot. With a ⅜-in. round file, hollow out the top edge of the lever directly over the lengthwise center of the slot, as shown at point *c*. This hollowed-out section engages the lower end of the harness-wire stirrup. On the lower edge of the lever, file three slots across the thickness of the lever. These slots are to serve as fulcrum points to prevent the lever slipping.

To use the assembly, level the harnesses on the warp on which the open-



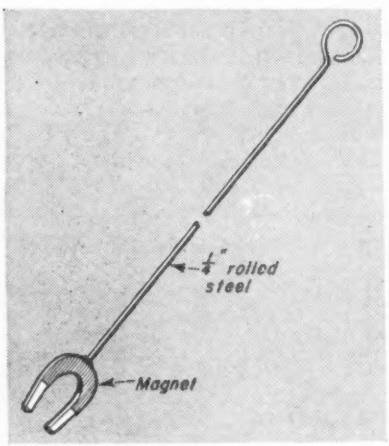
If harness-wire stirrups must be moved in order to increase or decrease the opening of the warp shed, this frame and lever will be useful, particularly on warps that have up to 24 or 30 harnesses. The frame is placed over the harness jacks, and the lever is inserted through the frame. The slot in the end of lever b straddles the harness wire, and hollow c engages the harness-wire stirrup. Frame a can be swung in or out to place the top of the stirrup in the proper harness-jack slot.

KINKS & SHORT-CUTS

(Continued from page 159)

ing of the shed is to be changed. Place the upper side of frame a over the harness jacks so that it fits into the last slot in the jacks. Now insert the slotted end of lever b through the frame, and allow one of the three slots in the lower edge of the lever to rest on the lower side of the frame, as shown in the sketch.

Place the slot in the end of lever b around a harness wire, and lower the opposite end of the lever until the hollowed-out point at c comes into contact with the harness-wire stirrup. Using frame a as a fulcrum, press down on the disengaged end of lever b. The slotted end of b will raise the stirrup, and frame a can be swung in or out to place the stirrup in the desired harness-jack adjusting slot. *(K-629)*

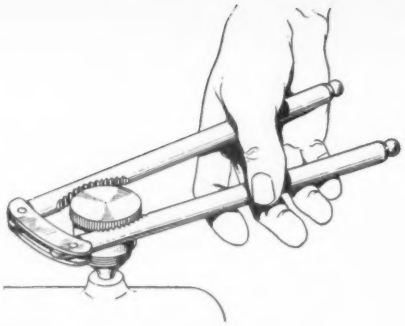


A permanent magnet, attached to a 24-in. length of rod, makes an efficient tool for picking drop wires from the floor. The tool is especially helpful for picking up wires that have fallen under a loom.

A Magnet Is Useful For Picking Up Drop Wires

Drop wires on a weave-room floor contribute to untidiness, may be damaged by the wheels of a truck or thrown away by a sweeper, or may cause a worker to fall. The wires should be picked up and reused.

Because of the stooping that is required to pick up the wires and the danger of the worker who picks them up getting splinters in his hand, we use a magnet for doing this job. The magnet, shown in the accompanying sketch, is horseshoe-shaped and attached to a 24-in. length of ¼-in. steel rod. A handle is bent at the upper end of the rod. *(K-661)*



Home Nut Cracker Makes Grease-Cup Wrench

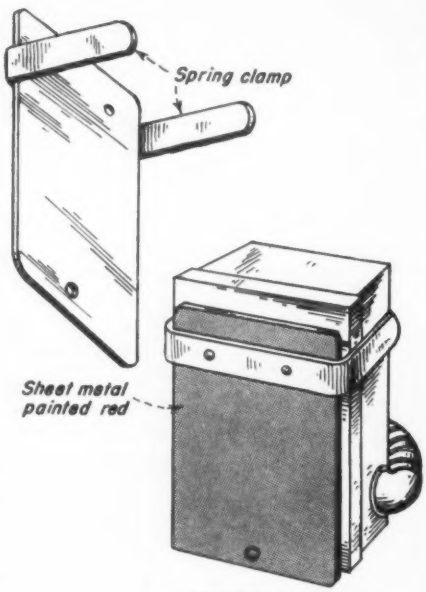
Grease cups filled with heavy grease are often difficult to turn with the hand and sometimes cannot be turned with a pair of pliers. The wrench shown here is useful for turning these cups. The wrench is only an inexpensive nut cracker, such as can be bought at any corner hardware store. No changes to the nut cracker are necessary. The grooves at the working area will grip an ordinary grease cup. (K-659)

Shield on Switch Box Warns Against Starting

A number of serious accidents have occurred in mills as a result of operators starting machines while they were being repaired by fixers. The loom-motor switches in our weave room are equipped with overload-protector relays; and when a weaver finds a loom stopped, she may think that the relay has shut off the power. Sometimes she may start up the loom without checking to see if it is being worked on.

To avoid accidents from this cause, we made shields for the fronts of the switch boxes. Each fixer is provided with one of these shields; and when he stops a loom to repair it, he clamps the shield over the switch box. The shield is painted a bright-red color so that operators will readily notice it when on the box.

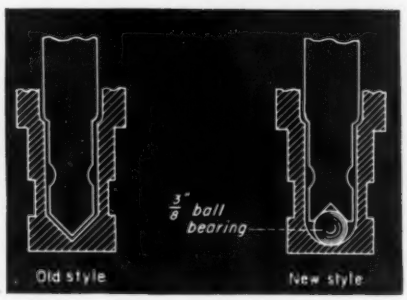
The shield is made of a piece of sheet metal sufficiently large to cover the push buttons on the front of the box. A length of spring steel, bent as shown in the accompanying sketch, is fastened to the top of the shield with rivets. This spring steel holds the shield in place on the box until the fixer completes his work on the loom and removes the shield to start the motor. *(K-665)*



Shield in position on motor switch

This shield, made of sheet metal and clamped over the front of a switch box with spring-steel clamps, warns weavers that the loom is being repaired. The use of such a shield will prevent accidents that result from looms being started up before the fixer is ready.

Ball-Bearing Step Increases Spindle Efficiency



Better-operating spindles were obtained by the use of this homemade ball-bearing arrangement. The lower pointed end of the spindle was cut off and a slot made in the end of the spindle. This slot fits over a ⅜-in. bearing ball, and the ball runs in a hollowed-out brass step.

Our slubbers and spinning frames were formerly equipped with spindles that had sharp points at the lower ends. Eventually, these points wore through the spindle steps, and the steps had to be replaced. Such wear, of course, caused a certain amount of drag on the spindle and created heat in the spindle and step.

Better operation and the elimination of wear have been obtained by devising a method whereby the spindle step serves as a ball bearing. The arrangement, shown in the accompanying sketch, consists of a concave step, a ⅜-in. bearing ball, and a slot in the end of the spindle.

The step was made of brass to the same dimensions of a standard step. The spindle socket, however, was hollowed out so that it would seat the ⅜-in. ball. A regular spindle was used, but the point was cut off and a slot to

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KINKS & SHORT-CUTS

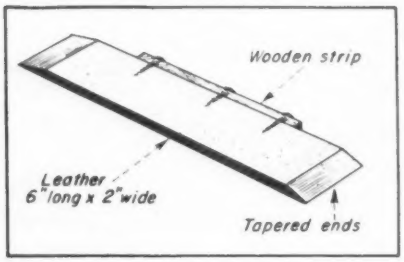
(Continued from page 160)

fit over the ⅜-in. ball was cut in the end of it.

The step is installed at the lower end of the spindle, the ball is placed in the socket, and the slotted spindle is lowered over the ball.

In our plant, one frame was equipped with this type of spindle and step. Its operation during a year trial period was so successful that we are now equipping all of our slubbers and spinning frames with them. *(K-701)*

Loops in Center of Cloth Prevented by Leather

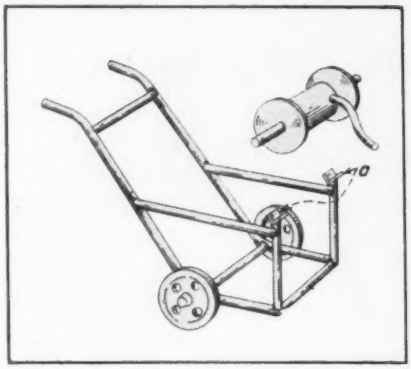


Additional rise at the center of cloth passing over the breast beam of a loom may aid in preventing small center loops. A piece of leather about 6 in. long and 2 in. wide, placed on the breast beam and held by a strip of wood and the tension of the cloth passing over it, usually gives sufficient rise to the center of the cloth for this purpose.

The center stop motion on some of the S-type looms occasionally has an inefficient dropping action that causes small center loops in the woven fabric. If the trouble cannot be eliminated by reducing the pick or adding to the shuttle check, it may be helpful to increase the rise of the cloth in the center of the fabric in order to overcome the loops.

A rise for doing this job can be made of a piece of leather approximately 6 in. long and 2 in. wide and a strip of wood 3 in. long. Bevel the ends of the leather strip on the upper side, and fasten the wooden strip to a lengthwise edge of the leather as shown in the accompanying sketch.

Place this rise under the cloth so that the leather rests on the breast beam and the wood rests against the metal beam. The tension of the cloth across the face of the leather will prevent the rise from shifting out of place. *(K-691)*



Hand Truck Is Useful For Transporting Hose

A hand truck of this type finds many uses around a mill's machine shop, and even in the other departments of the mill. Cables, rope, electric wire, hose pipes, etc. can be rolled up on the spool and transported to whatever point of the mill they are needed. Angle-iron bearings a support the shaft of the spool during winding and also during transporting. (K-679) Lincoln Electric Co., Cleveland, Ohio

Pliers Serve as Holder For Soldering Small Parts

Soldering small parts is often a tedious job because of the difficulty of holding the parts during the soldering operation. A satisfactory holding tool can be devised from a pair of pliers and a vise.

Place one handle of the pliers in the vise, and run the vise up until the plier handle is securely held. Double a rubber band over both handles of the pliers until the jaws of the pliers are held tightly shut. A small machine part to be soldered can be placed between the jaws of the pliers and be held securely while the soldering is done.

If the part is in two pieces, it may be desirable to use two vises placed close together or two pairs of pliers held in the same vise. *(K-700)*

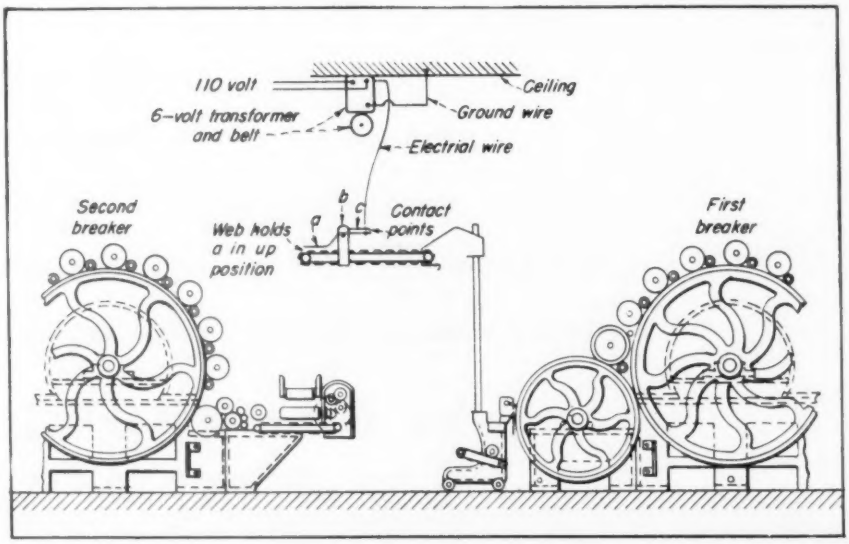
Bell Warns of Break In Card Center Feed

We have some old-model wool cards on which we run low-stock wool. The center feed, between the first and second breakers, has only an overhead feed apron; there is no vertical apron to carry the stock from the first breaker delivery to the overhead apron. Naturally, if there is much variation in the tension placed on the web, the web will break and feeding to the finisher will stop.

In order to reduce the loss of production and the amount of waste that result from such a break in the web, we have installed a signal bell to warn the finisher tender the moment the overhead apron becomes bare. The signal is arranged as follows:

A piece of tin 6 in. wide (approximately the width of the web on the overhead apron) and 10 in. long is bent near the middle so that one end is slightly heavier than the other, a in the accompanying sketch. A channel to fit fairly loosely over horizontal pin *b* is fashioned near this bend on the short end of the bend.

To the bearing housing at one end



This arrangement causes a signal bell to ring if the flow of stock on the overhead feed apron of an old-model wool card breaks or becomes too light. Thus, the finisher operator is warned in time to avoid excessive waste or loss of production.

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KINKS & SHORT-CUTS

(*Continued from page 162*)

of the front apron shaft is secured one end of a 10-in. length of flat steel or cast iron, *c*, bent in approximately the same shape as *a*. One end of *b* is welded to the top of the bend in *c* so that *b* extends about 6 in. horizontally over the web of the apron.

Underneath the top end of *c*, an electrical contact point, insulated against *c*, is arranged. To the upper end of *a* is secured a contact finger, insulated against *a* and bent so that it will touch the contact point under *e* when the front end of *a* is lying flat upon the carrier apron.

An electrical wire is attached to the contact point under *c* and to a 6-volt transformer and doorbell secured to the ceiling.

In operation, *a* is held up by stock passing along the apron. As long as the lower end of *a* remains up, the upper end of *a* remains down, holding the contact finger free of the contact point on *c*. If the flow of stock is broken or becomes too light, the lower end of *a* drops down on the apron and the upper end of *a* raises. The contact finger on *a* comes up against the contact point on *c*, and the bell fastened to the ceiling rings. (K-622)

Walter Knope, Two Rivers, Wis.

Varnish Prevents Deposit of Silicate

Preventing the formation of silicate deposits on carrier rolls in continuous peroxide-bleaching units can be a distinct help in the operation of these units.

Basically, such deposits should not form on reels and carrier rolls if proper squeezing of the goods is obtained as the goods come from the saturator. In some cases, however, there are sound practical reasons for not applying sufficient pressure at the saturator squeeze rolls to remove all the silicate solution; and some means should be provided to prevent the formation of deposits on subsequent rolls and reels. Otherwise, these reels and carrier rolls must be freed of the deposits periodically, either by scraping or soaking in a caustic bath.

We have found that we can prevent silicate deposits by painting the surface of the scrutcher over which the cloth passes with an ordinary Bakelite varnish. Silicate does not adhere to the varnish and cannot, therefore, build up a deposit. (K-681)

Oily-Filling Rack Improves Housekeeping

On our looms, we formerly used cloth bags for holding oily filling. Frequently, a quill of filling would be dropped on the floor by a battery hand or other worker and become soiled by falling into a spot of oil, grease, dirt, etc. so that it could not be used in the battery.

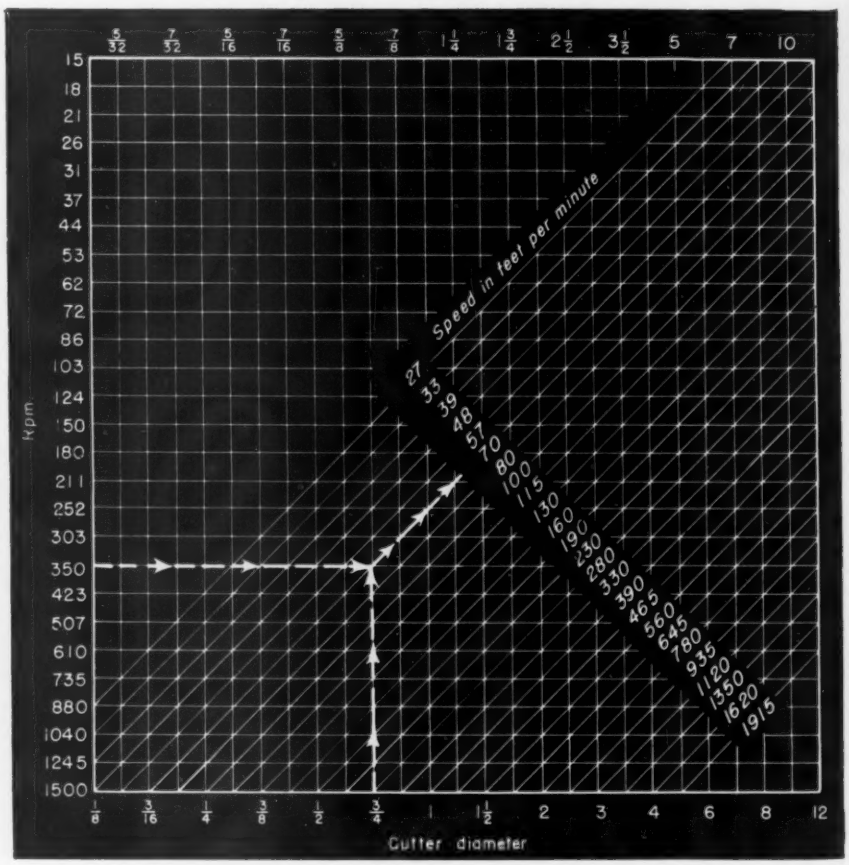
It was desirable to keep this soiled filling separate from the other filling, and we attached cloth bags to the stands on the looms where our filling crates were located. Of course, these bags got dirty and oily, and often they were torn. They presented an untidy appearance, and we built racks to replace them. One type of rack we are now using is shown in the accompanying sketch.

A base is made of cast iron, plate steel, or wood; and short spindles are mounted on the base. These racks can be attached to the looms at the filling-crate stands or on the loom arches.

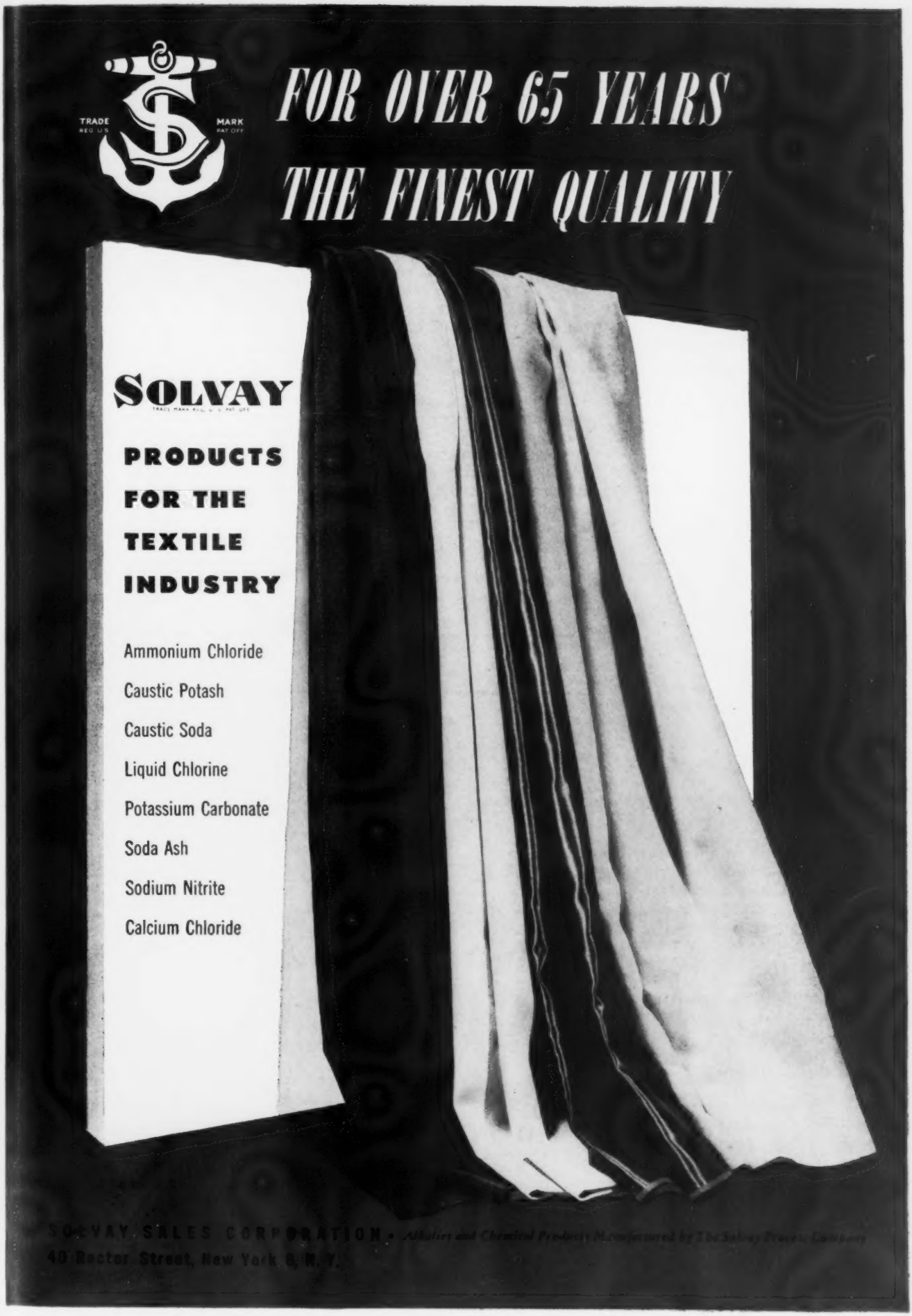
A rack similar to this one will improve the appearance of looms on which cloth bags are used as receptacles for oily filling. The rack may be fastened to the filling-crate stand or the loom arch and used also for signalling loom stops.

A convenient way to mount and use them is to remove the three signal fingers with which the arches of most Draper looms are equipped and mount the rack at that point. The rack spindles can then be used for signalling loom stops, as well as for holding oily filling. (K-690)

Milling-Machine Speed Given in Ft. Per Min.



This chart indicates milling-machine cutting speeds. Follow the vertical line from the cutter diameter to the point at which it intersects the horizontal line from the number of revolutions per min. At this point, follow the diagonal line upward to the cutting speed in ft. per min. For example, follow the arrows from a ¾-in. dia. cutter until they meet the arrows from 350 rpm. Then follow the arrows along the diagonal line. The cutting speed is 70 ft. per min. (K-514)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Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y.*

Follow These Rules To Prevent Accidents

A few worth-while safety rules, taken from *The Avondale Sun*, published by the Avondale Mills, Sylacauga, Ala., are:

Carding department.

1. Do not stand on a machine or a box to reach overhead. Use a ladder.

2. Never reach for tags of cotton on a running card cylinder or doffer. Be sure that the cylinder is stopped before you put your hand near it. Never try to brush lint off the cylinder with your cap, hat, or other clothing.

3. Do not put your foot or knee on a belt to tighten it so that it will pull. Clean and dress the belt; if it will not pull then, cut and shorten it.

Spinning department.

1. When a bander puts on new bands or sews on new tapes, he should never throw the old bands or tapes on the floor. Someone may trip on them.

2. Do not walk in alleys lined off for doff boxes.

3. Never climb on frames to fix something you cannot reach without climbing. Ladders are placed in the mill for use in such instances.

Dyeing department.

1. Make a habit of reporting accident hazards to your supervisor as soon as you notice them.

2. Do not carry sharp tools in your pocket. Keep all sharp or pointed tools placed so that the sharp edge or point is down.

Finishing department.

1. All tools not in use should be kept in their proper places.

2. Keep bottles and other loose objects off the floor. Someone may step on such an object and fall. *(R-356)*

Mill Man Does Not Favor Daily Overseers' Meetings

Your discussion as to whether it is worth while for a plant superintendent to have a daily group meeting with his overseers [TEXTILE WORLD, April, page 141] is of particular interest to me. I have been a minor executive under the supervision of a superintendent, and I have also been employed as a superintendent. I believe that I have thereby obtained a fair picture of what is needed to secure a smoothly operating production department.

In the first place, let me criticize the suggested time of 9:30 a.m. for holding the meeting. Usually, the morning hours are taken up with problems that require the overseers or foremen to be on the job with the men. The superintendent also has work that should be gone over in the early part of the day. Production reports, cost analyses, and other such data can be reviewed more clearly early in the day when the superintendent is not tired and harrassed by the multitude of details and annoyances that present themselves. A superintendent, like anyone else, can think more clearly early in the forenoon when his mind is fresh.

The daily contact between superintendent and overseers should be accomplished not by calling a meeting in the superintendent's office, but by the superintendent getting out into the mill and stopping in the various departments to talk with each of his overseers. In this way, he sees for himself how the mill is operating.

The pulling of all minor supervisors from the floor each day at a given time leads to a disorganized working

TEXTILE TICKLES . . . . . By Edgar Allen, Jr.

"I thought we weren't going to buy any more wool in the grease!"

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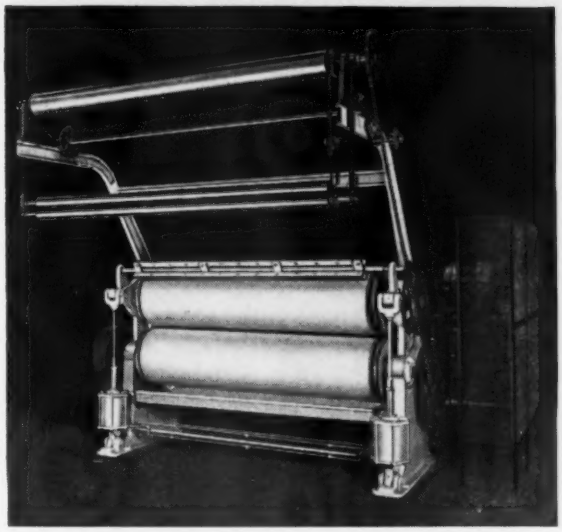

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Through modern functional design, Hunter Pneumatically Controlled Pressure Extractors offer more economical, more uniform and greater moisture extraction from all types of woven fabrics than all other methods, and with equal or higher production rates.

The Hunter may be used as a separate unit, in combination with a Scutcher in continuous cloth carbonizing or washer lines, or on tracks in wet finishing rooms. It is particularly suited for use in front of cloth tentering lines.

It is adaptable to any woven fabric, either flat or pile type, on cottons, rayons, woolens, worsteds and blended or manipulated goods. The Hunter more economically and more efficiently removes a higher percentage of moisture. It requires less horsepower than any other extraction equipment. For example, 5 HP against 20 HP for the average vacuum extractor. In addition, on comparative tests with vacuum and centrifugal methods, it has given 30% better extraction on cotton plushes at relatively high speed of cloth travel. Furthermore, it has shown no more "pile flattening" on plushes than the vacuum or centrifugal extractors.

In cloth carbonizing lines, where uniform, as well as a high percentage of acid extraction, is imperative, this unit offers greater extraction for fabrics ranging from 7 ounces to 40 ounces per lineal yard.

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force. Employees soon learn that no supervisory personnel is around during that specified time, and too frequently production will lag during the time that the production staff is meeting to discuss that very feature.

It is imperative that all foremen work as a team. Cooperation is one of the major features that can make or break any organization. However, daily staff meetings are not the answer. They will not serve to increase cooperation because the problems discussed will not be of vital interest to all the supervisors in the group. Cooperation comes from the individuals helping each other without being forced or ordered to do so by a superior.

The knowledge of how other departments are operating is essential. But this knowledge cannot be obtained at daily meetings. A weekly get-together is frequent enough to iron out problems dealing with interdepartmental items.

The wide-awake, effective superintendent will know those of his supervisors who have temperaments that will not permit them to get along well with other departmental supervisors. It is the superintendent's job to study such situations and work out a solution to keep matters under his control. The daily plant meeting will not overcome this problem, but the daily tour by the superintendent will do much to lessen friction and will enable him to learn the personalities of his supervisors. He will also be able to "feel the pulse" of the workers; and that, after all, is the answer to whether or not workers will produce for supervisory personnel. *(R-357)*

Straight-Wire Clothing Is Not Successful

In answer to the question, "Why Is Knee Wire Needed For Card Clothing?" [TEXTILE WORLD, May, page 178] I should like to point out that the basic reason is to maintain the proper position and point of the wire.

It is my understanding that the first card clothing was made without a knee in the wire. Straight wire was inserted in the clothing foundation so that it stood straight up. After the clothing was used for a short time, there was a noticeable tendency of the wire to lean backward. To overcome this fault, the wire was inserted through the foundation at an angle; but the results were again unsatisfactory. The wire was then inserted straight through the foundation and

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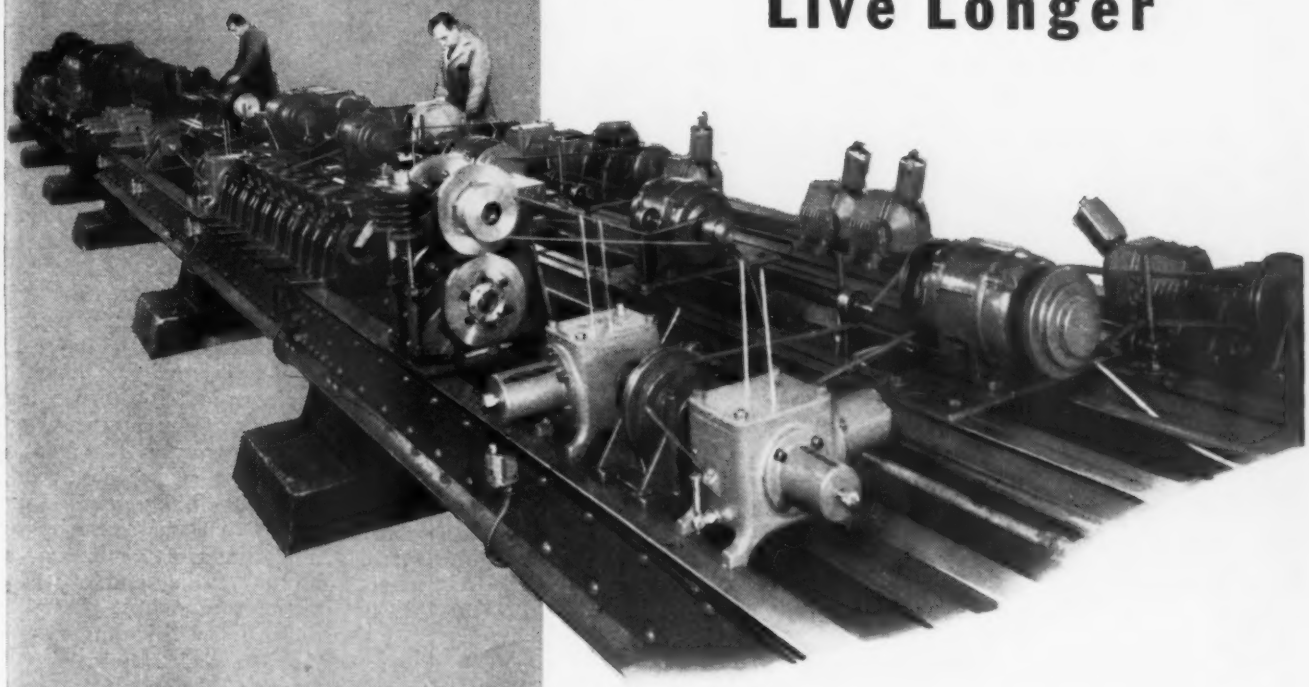
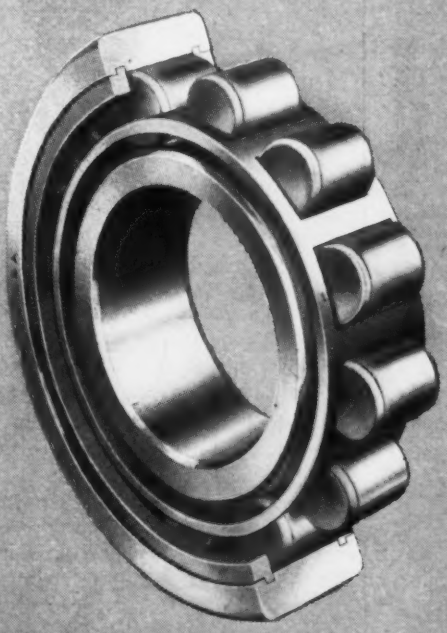


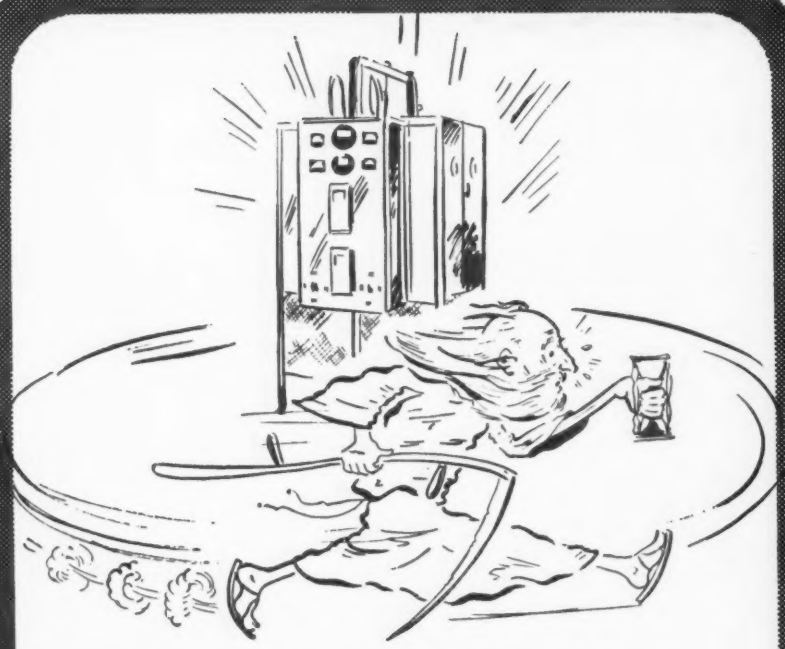


Supplementing the many eagle-eyed process inspections that each Hyatt Roller Bearing receives—beginning with raw material and following through every manufacturing operation—is our Destruction Line, pictured above.

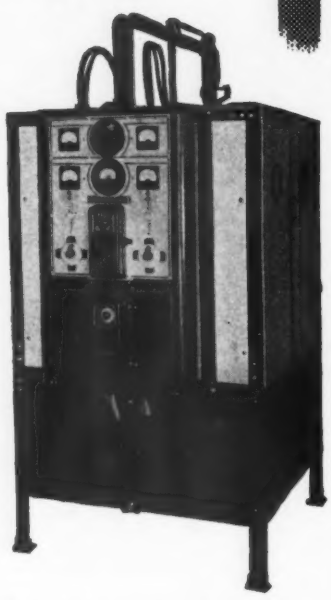
Here bearings picked at random from the production line are placed in testing rigs which scientifically emulate the actual operating conditions of the bearings. They are kept running to the point of destruction.

Thus we can see ahead through the years what is expected of the bearings for the job they are designed to do. This pre-determined quality—plus such Hyatt features as inter-changeability of parts, to facilitate assembly; and maximum capacity for a given space permitting more efficient product design—combine to make Hyatt *first choice* of experienced designers. Years of care-free application have proved the wisdom of their choice. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARINGS



Speed up Father Time by using an Atlas Weather-Ometer



Years of actual exposure to weathering are reduced to a few days testing in the Wether-Ometer.

The deteriorating effect of exposure to weather is a factor that must be known to positively assure the dependability of materials used outdoors. Fabrics, finishes, paints, rubber, plastics and hundreds of other products can be tested in the Weather-Ometer and their resistance to the deteriorating effects of outdoor exposure determined.

The Weather-Ometer produces an accelerated weathering action by controlled cycles of light, water spray, selected temperatures, and humidity. Operation is completely automatic, can be left running without attention 24 hours a day. Various materials can be given exactly the same test by setting the Cycle Meter according to the prescribed test program.

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bent forward above the foundation. Thus, knee wire came into use.

In the early 1930's, straight-wire clothing was revived. At that time, I was in a card room where several cards were tried on straight-wire clothing. We found that for a period of 30 to 90 days the straight wire was entirely satisfactory, but then it began to lean backward. When the cards were ground, most of the grinding was done on the wrong side of the point.

The purpose of trying the straight wire was to lengthen the interval between stripping the cards. At first, the clothing seemed to be successful because stripping was reduced. However, when the pitch of the wire changed, it was harder to clean the cylinders clothed with the straight wire than those clothed with knee wire. After a few months trial, the straight wire was discarded.

Another definite advantage of knee wire can be seen when a traverse grinder is put on a card. On straight wire, the grinder has a tendency to push down on the end of the wire and grind too heavily on the point. Knee wire, however, will spring down when the traverse grinder comes into contact with it. This condition both lessens the harshness of grinding and permits the back of the point, as well as the tip, to be ground.

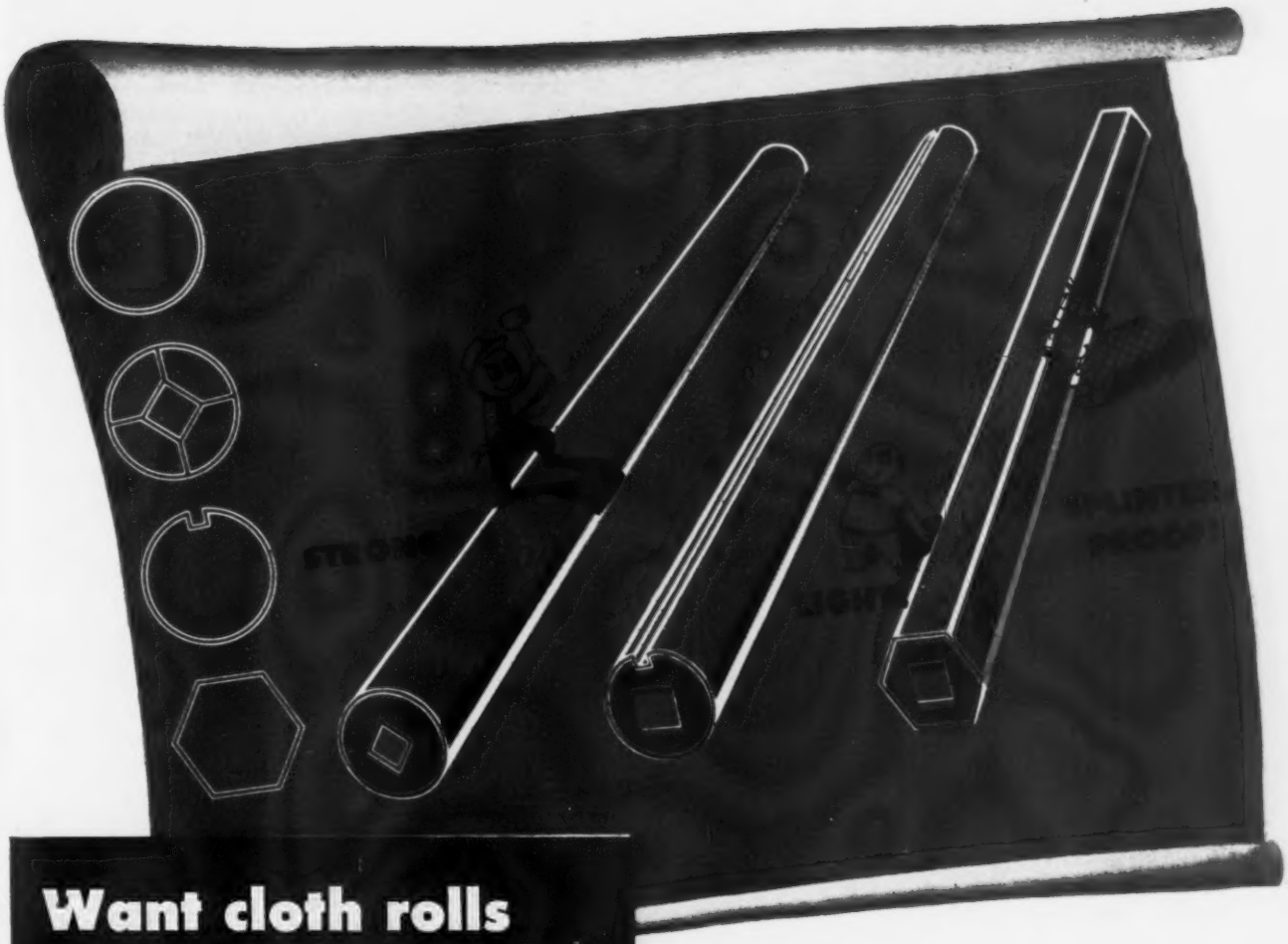
I know of a mill which runs rayon on cotton cards and desired to eliminate all card strips. In an effort to do so, the mill tried straight-wire clothing. After a few months of operation, the cards were put back on knee-wire clothing. (*R-353*)

Handling Chemicals Requires Constant Care

It is doubtful that workers, or even many supervisors, in finishing plants or dye houses of mills fully appreciate the fact that they are engaged in chemical processing. The processing departments of such plants carry out every day a large number of complicated chemical applications to obtain specific reactions and end results. All of these reactions must be done properly in order to produce a satisfactorily dyed or finished piece of cloth or lot of yarn. Thus, almost everyone working in the processing departments is, to some extent, a chemist.

The same is true of workers in the chemical or dyestuff supply room, for it is their job to handle and store properly the variety of chemical materials used by the plant.

Because machinery occupies space, requires maintenance, must be started and stopped, etc., workers are apt to



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To assure a firm grip on the cloth at the start of winding, special rough finishes can be applied to these rolls.

Illustrated above are a few of the rolls designed in co-operation with Reynolds Textile Engineers. You can purchase them now in a variety of sizes and styles from loom builders and from manufacturers specializing in rolls for finishing.

For details, call the Reynolds field office nearest you. Or, if more convenient, write directly to Aluminum Textile Sales Division, Reynolds Metals Company, 2535 South Third Street, Louisville 1, Kentucky.

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1927— 20TH YEAR OF GETTING THERE FIRST! — 1947

consider the operation of machinery as being entirely mechnical. Yet, in many cases, the sole purpose of a machine is to make possible and practicable the carrying out of a chemical reaction.

One important element in the use of chemicals is, of course, safety. Chemicals can cause injuries in two ways: (1) by inhalation of fumes and dusts that may be given off, and (2) by bodily contact.

Chemicals should be stored under proper conditions and handled and transported with care so that the packages are not damaged or broken. Special care should be observed in opening the packages. Some chemicals tend to build up pressure; and when the caps or plugs are removed, there is danger of the liquids spurting out of the containers. Some dry chemicals in tightly sealed packages have a tendency to form a slight vacuum; and when the lids of the packages are removed, air may rush into the containers and cause some of the dry chemicals to fly up as dust.

In most plants, chemicals are used in as dilute form as practicable. Sulphuric acid, for example, is bought at 92% strength, diluted to about 18% before it is brought into the plant, and is used at a concentration of about 1%. At this concentration, it is not likely that the acid will cause bodily injury. However, a few chemicals, such as caustic soda at 50%, must be used at their highest concentrations.

The first rule for the safe use of a chemical is to read the label on the shipping package. The manufacturer's label usually describes the product and gives pointers on how to store, handle, and use the chemical. No operator who has not been thoroughly instructed in the procedure should attempt to dilute, dissolve, or mix chemicals.

Other rules that should be rigidly enforced include:

1. Wash off immediately any chemical that gets on the skin or clothing, whether or not it seems to be causing any irritation or damage;
2. Use generously bicarbonate solution to counteract acid burns and boric acid to counteract alkali burns;
3. Wear protective clothing, such as gloves, aprons, eye shields, etc., when handling dangerous chemicals;
4. Discuss the chemicals with which you come into contact with those of your associates who know more about them than you do;
5. Do not allow yourself to assume an indifferent attitude to the potential dangers of chemicals because you have not been injured so far. *(R-343)*

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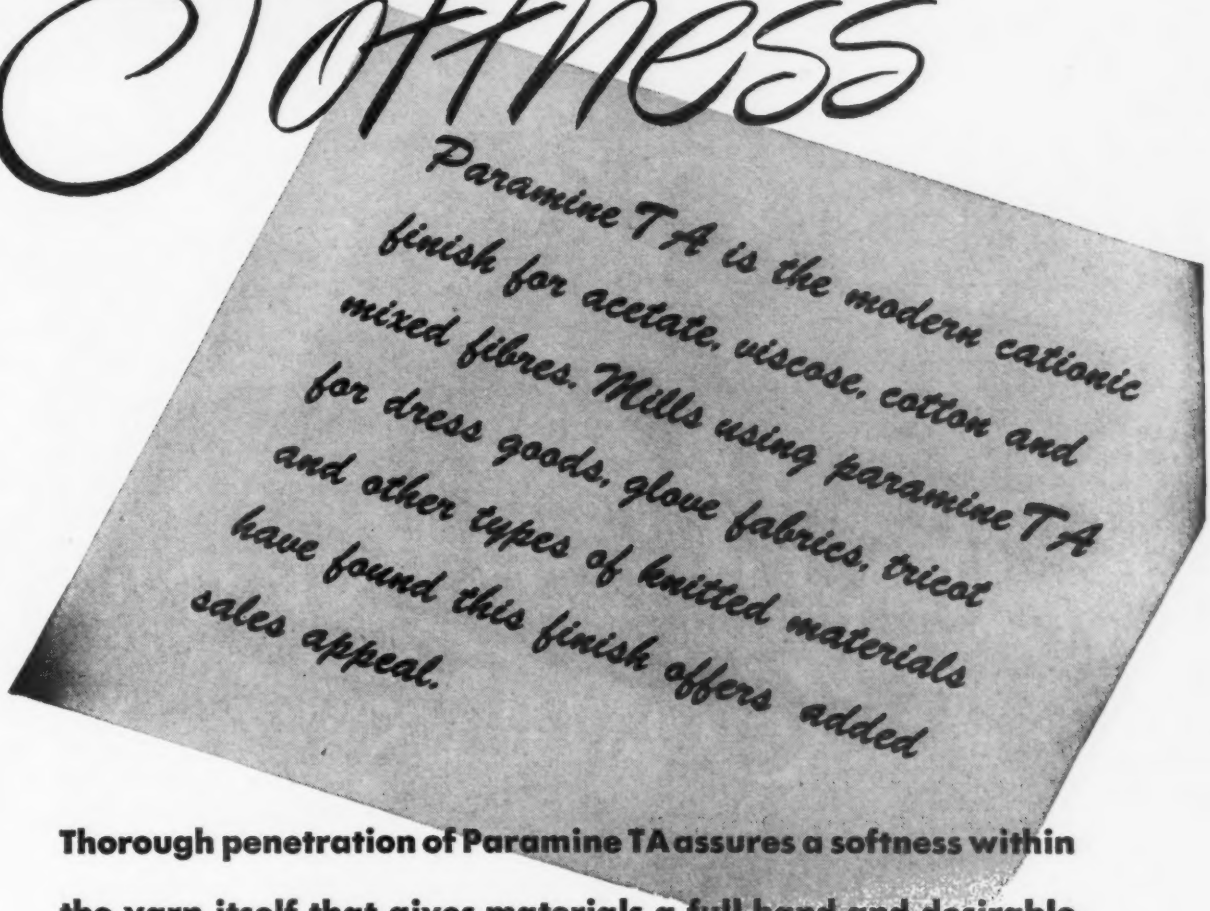
Paramine TA is the modern cationic finish for acetate, viscose, cotton and mixed fibres. Mills using paramine TA for dress goods, glove fabrics, tricot and other types of knitted materials have found this finish offers added sales appeal.

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MANUFACTURERS' BULLETINS

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Free FOR THE ASKING

1. **Voltage regulators** which respond to the smallest voltage changes without a time lag are described in a booklet issued by Sorensen & Co. Wiring diagrams, charts, etc. indicate the effectiveness of the device when controlling voltage, and the numerous models available are described and illustrated.

2. **Lockstitch Instruction Book, Form 904,** is available from Willcox & Gibbs Co. The book contains a wealth of information on Lockstitch sewing machines for owners, mechanics, and operators.

3. **Contro elastic yarn** manufacture, properties, and uses are listed in a recent booklet published by Firestone Industrial Products Co.

4. **The No. 50 Leesona Winder** for use on silk and rayon is discussed in Bulletin No. 250 of the Universal Winding Co. The booklet outlines the features of the No. 50 winder, and describes the many attachments specially designed for use on rayon and silk.

5. **British-manufactured twisting,** winding, reeling, hank scouring, and yarn pressing machinery is listed and fully described in a publication of Prince-Smith and Stells, Ltd., makers of textile machinery.

6. **The Bryson Threadmaster,** an automatic, electric control for sewing machines is described in a booklet issued by Bryson Mfg. Co. The control is applicable to all makes of sewing machines and is used for stopping the machine instantly when a thread breaks or when bobbin or material runs out.

7. **The Chapman Static neutralizer** for use on cotton cards is discussed in a recent publication of Chapman Electric Neutralizer Co. The folder describes the problem of static electricity in carding, and how it is solved by the Chapman neutralizer.

8. **A new surface pyrometer** is described in a recent folder issued by the Pyrometer Instrument Co. The new Pyro surface pyrometer is offered with a choice of eight different thermocouples and several extension arms.

9. **Industrial Control Devices,** Catalog 8302, offered by Brown Instrument Co., contains useful information on the full line of Brown electric and pneumatic automatic control systems. Complete information, specifications, schematic diagrams, dimensional drawings, photographs of the instruments, and range charts are included.

10. **Type GR and GRMI heavy-duty rotary pumps** for liquids of all viscosities are described in Bulletin W-487-B10B of the Worthington Pump and Machinery Corp. Designed for handling abrasive-free liquids, these pumps can handle air or gas-permeated liquids and can be supplied with steam jackets.

11. **"Day-line" industrial fluorescent lighting** fixtures, listing features, application data, and prices, are shown in a new illustrated catalog of Day-Brite Lighting, Inc.

12. **Illuminated magnifiers** for textile inspection, the Pike Flash-O-Lens, manufactured by the E. W. Pike Co., are shown and described in a new folder. All models, specifications, and applications are included.

13. **The new "Air Express" fulling mill** is completely described in a recent publication of Rodney Hunt Machine Co. All improved features of the new machine are listed, as well as data on construction, specifications, and applications.

14. **Mountain City Foundry** has issued its 1947 catalog showing the many services and products of the company, including the Hunt Loom Spreaders.

15. **Electronic instruments,** including recorders, amplifiers, area meters, and other types are described in a publication of the Bailey Meter Co.

16. **Permanent magnets and pulleys** of the Homer Manufacturing Co. are listed, and their application discussed, in a new folder.

17. **A Veelos V-Belt catalog** of Manheim Manufacturing & Belting Company describes and illustrates features of adjustable V-belts, construction details, methods of coupling and uncoupling, measuring, and insallation.

18. **A catalog of chemical agents** for the textile industry entitled *Textile Specialties,* published by American Cyanamid Co., lists properties and uses of its wetting and surface-active agents, sulphonated oils, softeners, penetrants and dyeing assistants, sizings, and water-repellent compounds.

19. **Force-feed lubricators** of the Manzel Brothers Co., for positive and automatic

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lubrication of cylinders and bearings are described in a new booklet. Application and operating data are included.

20. **American Safety Standards,** a booklet issued by American Standards Association, lists over 200 standards covering safety and industrial health, with a brief description of each. Several listed pertain both directly and indirectly to textile manufacturing.

21. **Corrosion-resistant steam jets** are completely described in a new booklet published by the Duriron Co. Complete data on sizes and capacities, dimension drawings, a chart for calculation of proper-size jet, and information on installation and operation are included.

22. **The Fire Industries Safety Laboratory,** operated by 114 member companies of the Factory Insurance Assn., is described in a new booklet. Purposes and facilities of the laboratory and its services to industry are explained.

23. **Flowrator instruments** for measuring flow rate of liquids are described and their application and installation fully discussed in an illustrated publication of Fischer and Porter Co.

24. **Selection and maintenance of rubber transmission belts** is discussed in a recent booklet by B. F. Goodrich Co. Tables and other technical data are featured.

25. **The decating process for silk and rayon,** why and how it is done, and a description of the machines are included in a new booklet by Van Vlaanderen Machine Co.

26. **A study of crocking in wool dyeing** comprises the contents of the Calco Technical Bulletin, No. 780, of Calco Div., American Cyanamid Co.

27. **Technical data sheets** on individual products, issued by Onyx Chemical Co., present concise, factual, and detailed information on major uses, technical advantages, application and performance data, chemical and physical characteristics, and method of shipping of textile chemicals.

28. **Stainless-steel valves and fittings** of Alloy Steel Products Co. are described in a new Catalog, No. 47. The complete line of valves is listed, with application data, specifications, illustrated glossary of valve parts, and details of construction.

29. **"Savings in Shipping"** is a new booklet issued by Acme Steel Co. Authentic, illustrated case histories of savings in time, materials, and labor through use of steel strapping are presented.

30. **Materials-handling equipment** of Yale and Towne Mfg. Co. is shown in action in their new booklet "On the Move With Yale." Illustrated are applications of electric trucks, hand lift trucks, hoists, and scales.

31. **"Serving the Textile Industry"** is the title of a new booklet issued by Werner Textile Consultants, Inc. Objectives of Werner service, the means by which they are attained, a list of clients served, and testimonials are included.

32. **Superior cleaner** for long-staple cotton and rayon is described in a folder issued by the Centrif-Air Machine Co., Inc. The machine is illustrated and shown diagrammatically. It opens, cleans, and conveys long-staple cotton and rayon without rolling, curling, stringing, or staple breakage. It is said to remove mineral and vegetable matter. It is designed to follow bale openers and blending hoppers and deliver fiber in proper condition for the picker.

33. **Operation of the Air-Perme-Ator** is shown diagrammatically and described in a specification bulletin entitled "Dry Humidification" issued by Air-Perme-Ator Mfg. Co. Companion folders show installations in knitting plants, including warping for tricot knitting. The advantages of the device for particular installations are described.

34. **Mechanical handling** of cloth, films, paper, etc., is described in a booklet issued by John Waldron Corp. Included among the devices are festooning machines, arched conveyors, straight conveyors, drum conveyors, multiple-pass festooners, floaters, edgewise chain clip conveyors, etc. The circular also illustrates the printing and coating machines which the company manufactures.

35. **Stainless steel** textile machinery is described in a new booklet issued by the Electro Metallurgical Co. The application of this alloy to the manufacture of synthetic fibers is described and illustrated, and many other further uses are shown in textile processes running through spinning and weaving to dyeing and finishing. Some 46 typical applications are listed in the dyeing and finishing processes alone.

36. **Supreme's new model** RO jacquard-type, pattern-wheel knitting machine is described in a catalog issued by Supreme Knitting Machine Co. Details of pattern control cams, yarn carriers, and the machine itself are described and illustrated. Pictures of various novelty fabrics which can be produced on the machine are shown. The production rate is stated as 45 yd. per hr.

37. **The Chapman static-electricity neutralizer,** its application and operation on drawing frames, is discussed in a publication of Chapman Electric Neutralizer Co.

38. **Incentives for supervisors and executives** is the subject of a booklet issued by Albert Ramond & Associates. All aspects of the topic are discussed.

39. **The important physical properties** of about 175 synthetic organic chemicals are tabulated in a recent booklet of Carbide & Carbon Chemicals Corp.

TO GET MORE INFORMATION

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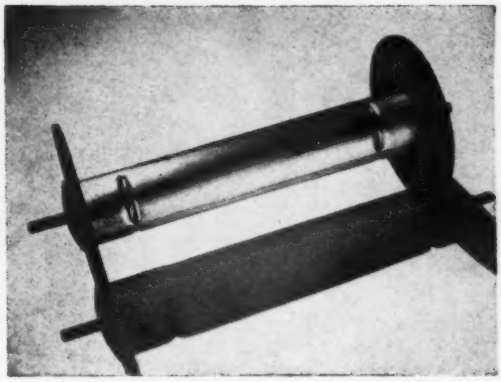

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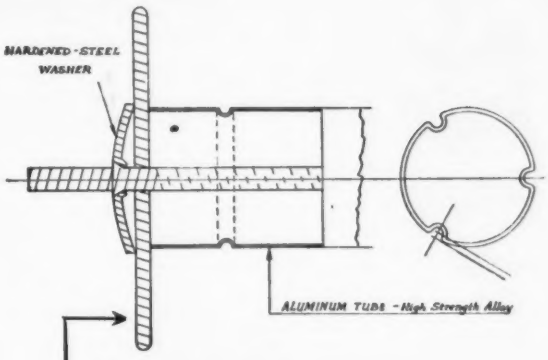

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Questions and Answers

Starting a Knitting Mill Poses Many Problems

Technical Editor:

We are interested in establishing a very small mill to make women's hosiery, and we should like to know the following:

What would the expenditure be to establish a small factory of this kind, how many machines would we need to make 300 to 500 pairs of hose per day, is the machine available at present, and can silk and nylon yarn be easily secured? (9187)

If you are interested in starting a hosiery mill, you should first determine whether you plan to knit full-fashioned, seamless, or men's half-hose. If it is to be a small mill, it is advisable to install seamless or small-section, short-unit full-fashioned machines, because the production of one multiple-section machine, operating on a three-shift basis, would more than take care of the requirements specified.

Since you are interested in machinery, it is advisable to confer with the knitting-machine manufacturers; they are in a position to give a complete-cost figure of establishing a knitting mill. In regard to yarn, it is rather doubtful that you can obtain a nylon "position" at present and thrown silk is not always easy to secure. This point should be thoroughly checked in order to determine whether or not yarns can be obtained when machines are installed.

Job Evaluation Is a Precision Tool

Technical Editor:

We hear quite a lot these days about job evaluation. I have not been able to ascertain the extent to which this phase of textile engineering is being used in the larger mills in the United States. Can you give me a brief explanation of what job evaluation means? To what extent and with what success is it being used? (9188)

Job evaluation is widely used, with varying degrees of precision, in the larger mills of the United States.

Strictly speaking, job evaluation is

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a system for determining the pay rate per hour of a wage earner, or the salary per week or month of a supervisory employee. Often it is erroneously used as a term to describe time-and-motion study, a related phase of industrial engineering. The Federal-sponsored "peg points" for the minimum wages of various classifications of textile workers were examples of job evaluation, although not so precise as the systems found in the larger mills that have able personnel or engineering departments.

Such factors as "Length of time required to learn job," "Damage to product if spoiled," "Supervision exercised," "Supervision required," and others are used by the engineering department of one mill to find the relative values of all job classifications, including supervisory and managerial employees. Each factor is given a point value, depending upon the requirements of the mill. The total points scored under all factors become the final job rating.

The mill then sets its minimum and maximum wage and salary on separate charts. By prorating the dollar and cents values on the point scale, the engineering or personnel department can transform the ratings in points to wage rates per hour or week.

The importance of job evaluation thus used is in its contribution to a more just and proportionate scale of pay for the various classifications of work. Its long-run effect tends to iron out inequalities in the mill's wage scale. For example, during periods of general wage boosts, higher boosts may be given those jobs that may have been underpaid in the past, provided of course that management-labor policy permits differential pay raises.

Job evaluation is often combined with time-and-motion study, although it should not be confused with the latter tool of management. Time study measures all the detailed elements of work by precise, stop-watch readings. If, as a result of job evaluation, it is found that the base rate per hour of a specific job should be $.80, the time-study department would use this rate to calculate the incentive rate of pay for a job. Thus, although the minimum rate as determined on the basis of job evaluation may be $.80 per hr., the incentive earnings of the employee on that particular job may be considerably higher, but never less, than the minimum.

Time study, in combination with job evaluation, is used extensively in the larger mills as a tool for operating incentive systems; but it is also valuable from the standpoints of standard

Rayon by the pound, on cones, in stores? No, the rayon industry isn't going to sell yarn to the consumer.

But six pounds of rayon is what every woman, man and child in the U. S. will get this year. They'll get it in clothing, household fabrics, tires . . . in all the ways they've always bought rayon merchandise. Yes, 900,000,000 pounds of rayon to 150,000,000 people.

As an average that's quite a bit for each one, but, as a matter of fact, it's not all they want. It is estimated that another 300,000,000 pounds could have been used if production facilities were available.

Even with this demand far in excess of supply, rayon prices didn't skyrocket. While the average cost of living went up 56% since January, 1941, rayon advanced only 20% in the same time. And with that increase it is still only a third of its 1926 price.

Then, production was less than a pound per person and offered no comparison in quality with today's yarns. The years between have seen not only greatly expanded volume, but consistently improved production techniques, paced by our own Continuous Process.

With a sound price policy to accompany this steady growth and improvement, every phase of the textile business has benefited from rayon. Mill, converter, finisher, cutter and retailer have expanded in direct proportion to rayon's growth and will continue to do so when the consumer asks for and gets—eight or ten or twelve pounds of rayon.

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The Magic Door

costs and standards; and it is often the source of improved methods of operation in the mill.

In the better applications of industrial engineering, job evaluation, time study, and motion study are combined, with engineers specializing in the various branches of the work but having their individual efforts coordinated under one central control. Where this is done, mills almost invariably find results in better ways of doing a job, lower costs, and higher wages for the employees.

While time study tends to eliminate lost motion, overlapping, expensive effort, and poor procedures, motion study is an intensive and refined method of measuring, analyzing, and improving the fundamental motions of a job. Laws of motion economy have been developed, and applications of these rules to specific jobs in many cases result in improved performance by operators. Motion study with the movie camera, called micromotion study, is used in only a few mills; but both with and without the camera, motion study is growing in the textile industry. Its contribution, in combination with time study and basic job evaluation, is well worth the attention of the progressive mill management.

However, all of these phases of industrial engineering demand a skilled engineer, since new discoveries are made every day in the application of these tools to the manufacturing enterprise.

Weaving Wire Screen Is Expensive Process

Technical Editor:

Can you give me some information in regard to weaving metallic screen of the type normally used for protection against insects? (9189)

Wire used for insect screen is usually delivered to the weaver on spools, and the weaver must prepare his warp and filling on suitable packages for use on the loom.

An ordinary beamer, with a creel to accommodate the yarn-manufacturer's supply package, would be practicable for preparing the warp. Filling can be transferred from the yarn-manufacturer's supply package to filling bobbins on a Schweiter winder or a conventional frame.

A one-up, one-down weave on any model of Draper loom or on a special-model Crompton & Knowles loom would do the weaving satisfactorily. Because of the difficulty of controlling the ends of the wire at the filling transfers, all transfers would probably have

They'll both get there . . . the point is, which is the better way? Similarly . . . textiles can be made without the Whitman standards of modern quality control, expert craftsmanship, streamlined manufacturing methods. But when fabrics are tailored into the garment . . . and the consumer wears them . . . that's when the difference tells!

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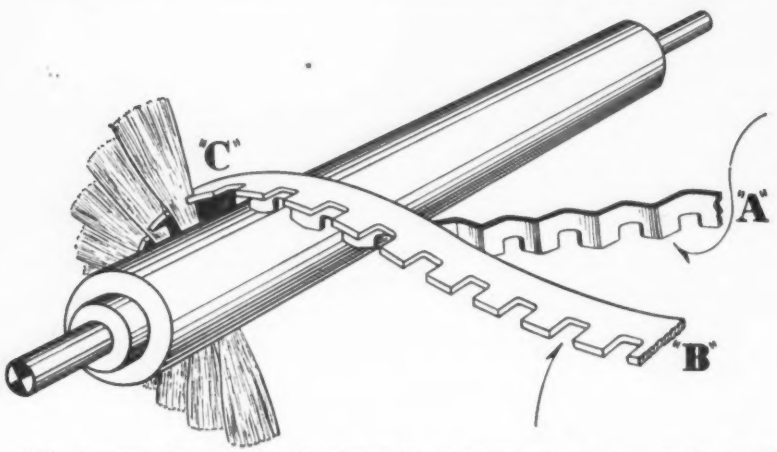

"A"—a metal strip, notched to hold tufts of bristle, wound around the metal core, resting on - - -
"B"—a similar metal strip, wound edgewise on the metal core at point - - -
"C"—where tufts of bristle are inserted and sealed in place with special plastic cement, which covers metal strips "A" and "B" completely, surrounds and penetrates the base of the tufts, and makes METLKOR brushes permanently moisture proof, easy to clean, ideal for applying color, raising and laying, etc.

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to be made by hand. The procedure would be as follows: When the loom weaves out a bobbin of filling and stops, the operator would remove the old bobbin and put a full bobbin in the shuttle; clip the loose end of filling at the selvage of the last good pick; hold the end of the new bobbin in his hand in order to put tension on the filling during the first pick of the new bobbin; and start the loom. When a few picks have been made, the operator would stop the loom and clip the excess wire that he had held in his hand at the selvage. Then he would start the loom and let it run until it weaves out the second bobbin of filling. Loom production probably would not be greater than 120 picks per min., regardless of the type of loom.

Of course, this hand transfer makes the weaving process expensive, compared with weaving cotton or other yarns that can be transferred automatically; but the nature of the wire and the lack of control at the ends make it necessary.

The only processing machine that would be needed after weaving would be a calender. Although the heat on the calender would not be critical, the calendering process would be needed to reduce bow in the filling of the metallic cloth, to adjust width accurately, and to set the filling and warp crimp.

Thus, only four machines are necessary: (1) warp beamer, (2) winding frame, (3) loom, and (4) calender.

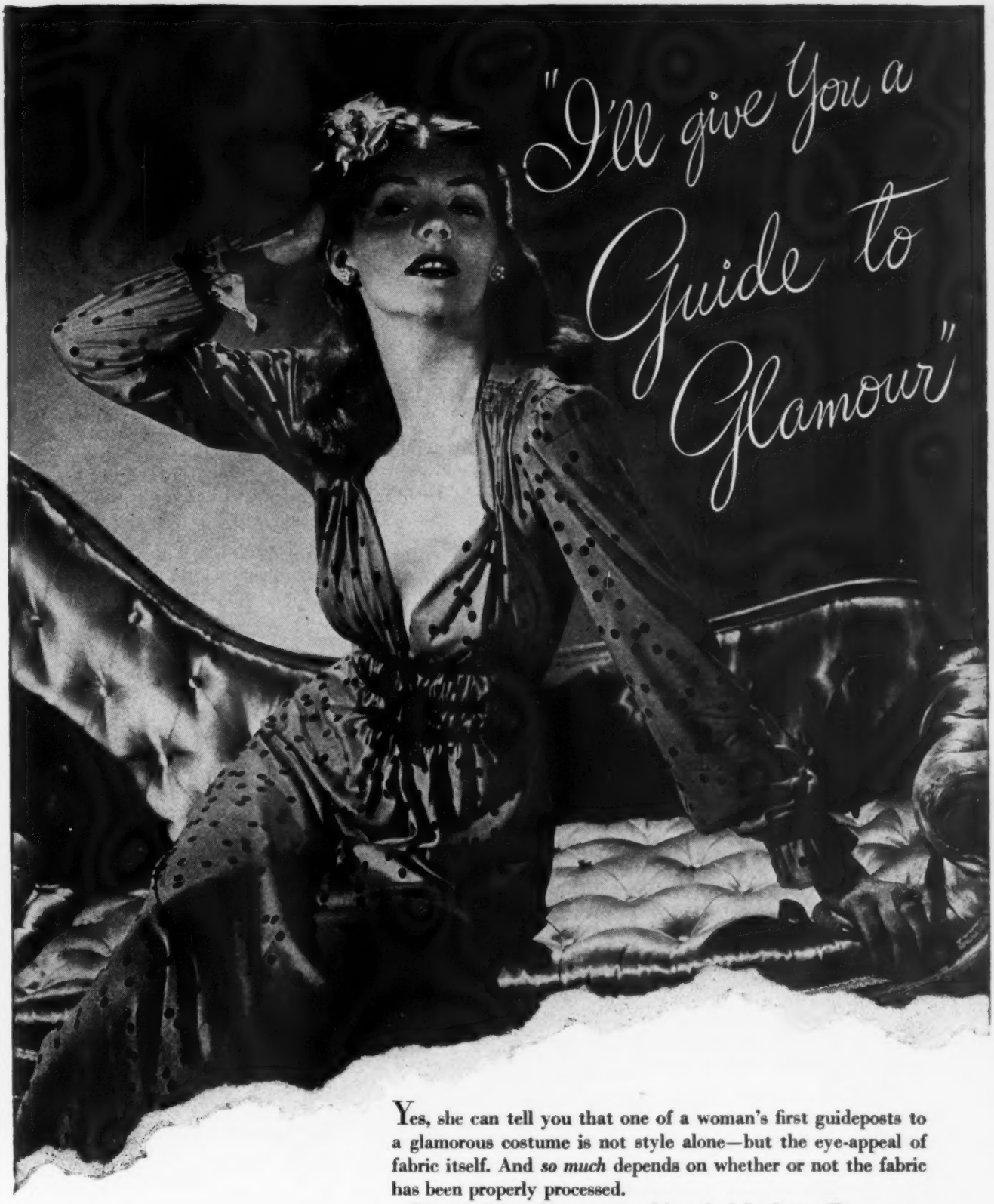
Between weaving and calendering, it would be desirable to inspect the cloth and clip loose ends of the wire.

There are many fine points that would have to be worked out when actually in production. New warps must be drawn in by hand or tied-in back of the harnesses to the old warp. If they are tied-in in this manner, care must be observed as the knots are drawn through the heddles and drop wires. This part of the operation will also be handwork, since the knots and tails will have to be guided through. The proper weaving tension would require some experimentation. The warpwise tension would be considerably greater than the tension used for coarse cotton numbers, as would the filling tension. Extra tension weights and shuttle bristles (or perhaps even small pins) would be required.

What Type of Help Is Used For Cleaners?

Technical Editor:

We are having trouble in securing the services of young girls (16 yr. of age or



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slightly older) for cleaning jobs in the card room and spinning room. At a recent meeting of our foremen, it was suggested that we use elderly men or women—40, 50, or even 60 yr. of age—for doing this type of work. Can you advise me if employees of this age group are used on the cleaning jobs in mills in the United States? If they are not used, what type of help is ordinarily employed? (9175)

The mills in the United States, which have broken down their work tasks in carding and spinning so that they assign special employees as cleaners, ordinarily use the following types of workers for the cleaning jobs:

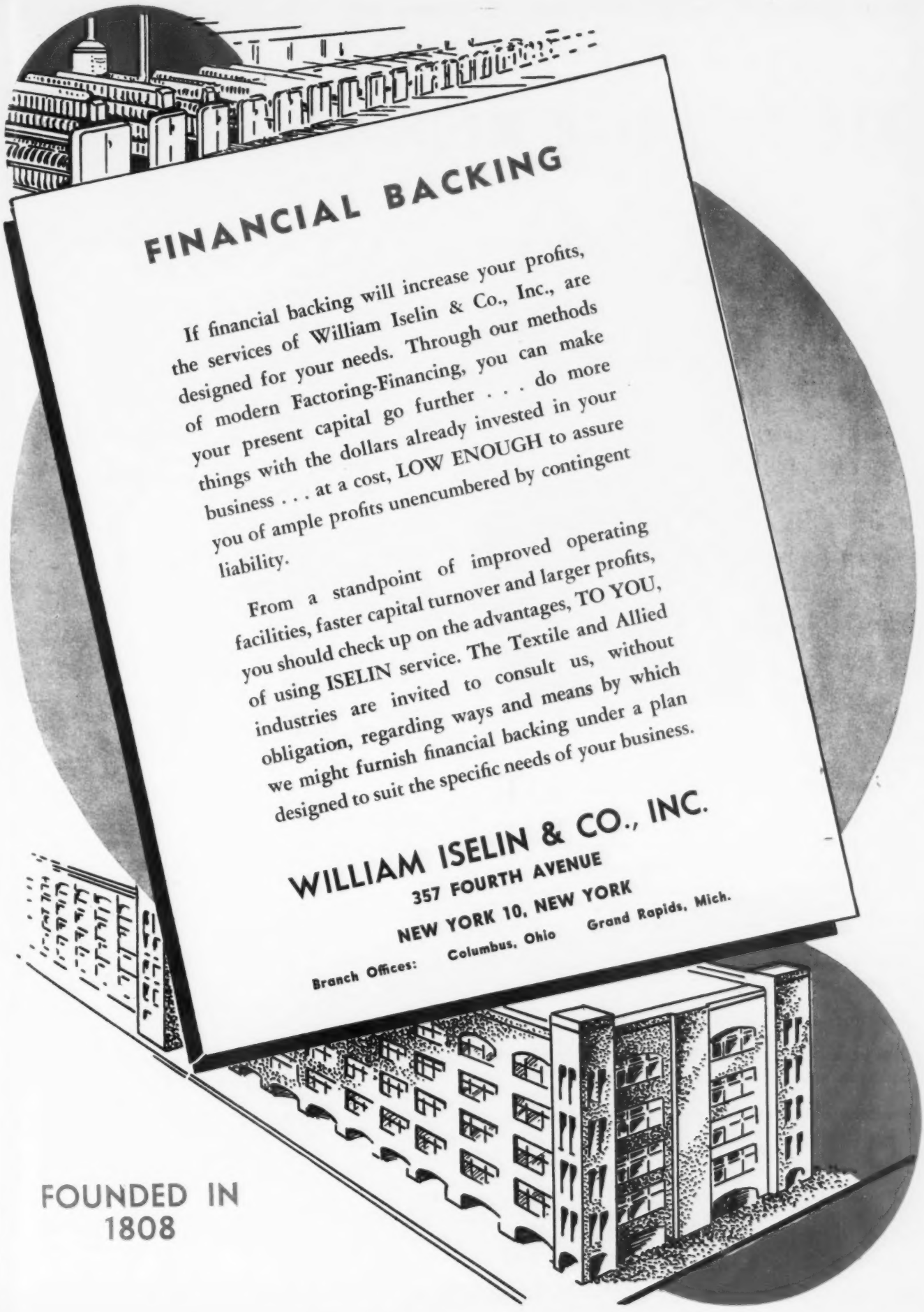
1. Roving frames: Usually, cleaning on these machines is done by a man, ranging in age from about 25 to 55. In most cases, the man used is one who has some knowledge of and skill in running frames. Often it is an experienced frame tender who is temporarily in need of a rest from the strain of running frames or who is slightly disabled because of sickness or a minor accident.

However, a few mills are now beginning to use mechanical hand tools for picking and cleaning rolls, bolsters, and spindles. The cleaner assigned to this phase of the task can be male or female, depending upon which is available. The heavier cleaning, such as cleaning out the backs of long-draft frames, compounds, etc., is usually done by a man, probably the man who drags in the drawing or does the creeling.

2. Spinning frames: Cleaners on these frames are almost invariably women. Women of any age are used, but most efficient cleaners range between the ages of 20 and 40. These women pick rolls and, in most plants, they have no other tasks. Other cleaning—around the roller beam, breast beam, thread guide, ring rail, etc.—is usually done by the spinners. The heavier cleaning is usually divided between the doffer and oiler.

Mechanical hand tools are also being widely adopted for use by the cleaners in picking rolls. However, the use of these tools is not changing the type of cleaners used for the roll-picking job. The only effect upon the job that it is having is an increase in the job assignment.

It seems that the suggestion made at your foremen's meeting—that elderly men be used for the various cleaning jobs—is quite good. It should work well for all phases of cleaning except, possibly, picking rolls. As you know, this job requires fingers that are fairly nimble. Few men in the age group you specified have nimble fingers.



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New Lawsuits

(*Continued from page 141*)

liable to the child's parents, and said that the company had the right to maintain the pond or pool on his premises; but since it was located so closely to a church where children went, it was negligence not to fence in the pond to protect children who were attracted to the pond.

Thus it is quite apparent that when children of tender years are attracted to any place and the owner knows it, his duty is to exercise ordinary care and to provide reasonably adequate protection against injury. Failure to do so constitutes an act of negligence.

Also, see Flint River Cotton Mills v. Colley, 30 S. E. (2d) 426. A mother sued the Flint River Cotton Mills claiming damages for the death of her 4½ yr. old child occasioned by a fall into a well connected with a reservoir on the mill premises. The company maintained a large reservoir for holding water, with a drainage well near one corner. The reservoir was situated between two rows of houses occupied by the mill employees, in one of which houses the mother and children had resided for many years.

In holding the corporation liable, the higher court said, "There is a greater duty owed to small children lawfully upon premises than to older persons. . . . Children of tender years and youthful persons generally are entitled to a degree of care proportioned to their ability to foresee and avoid perils that may be encountered."

CAN SUE FOR DAMAGES. Modern higher courts consistently hold that the Workmen's Compensation Act protects employers from suits for damages by injured employees. In other words, an injured employee cannot recover compensation and also damages. However, where compensation laws do not protect an employee, he may sue his employer for damages.

For example, in Peerless Woolen Mills v. Pharr, 40 S. E. (2d) 106, it was shown that an employee was hired to work in the washroom of a woolen mill. The employer did not furnish him with rubber gloves to protect him from a chemical solution in which the woolens were washed. Consequently, something poisoned the employee. Since this was not an accidental injury, the higher court held that the employee could not recover compensation under the State Workmen's Compensation Act.

However, this court held that the employee could sue the employer for damages. This court also held that employers must use reasonable care and diligence to provide a safe place

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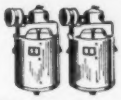
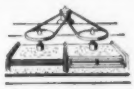


Metallic oleates . . . Esters



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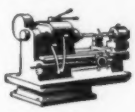

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Sap. Value	195-199
Unsap. (max.)	3.0%
Color (Lovibond)	30Y-8R-1"

0-20 WHITE "ELAINE"	
Titre	8-11°C
Iodine Value	90-93
F.F.A. (as oleic)	98-100%
Acid No.	195-199
Sap. Value	197-201
Unsap. (max.)	2.0%
Color (Lovibond)	15Y-1.5R-5¼"

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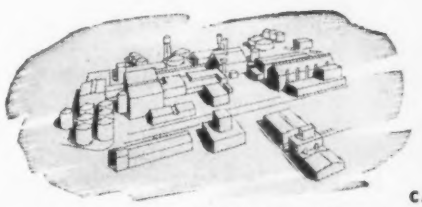

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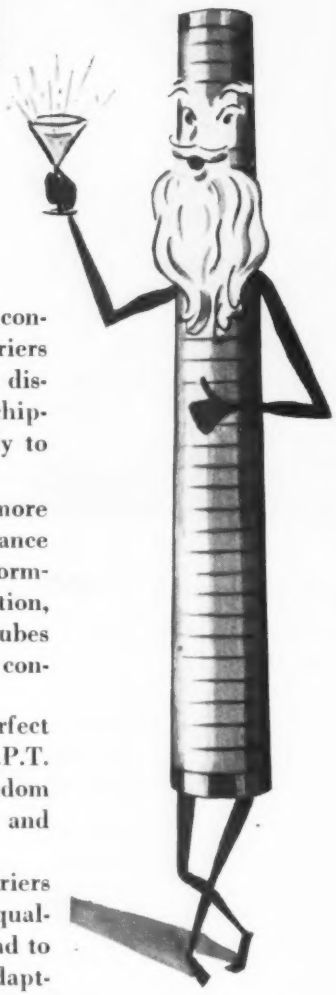

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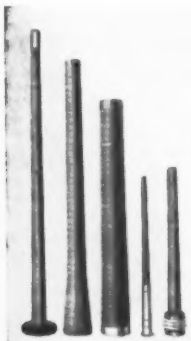

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for employees to perform work, and must make reasonable provision for the protection of employees against dangers to which they are necessarily exposed while performing such work. Failure to do so results in the employer being liable for damages if the employee cannot recover compensation under the State Workmen's Compensation Act.

CONTRACTOR NOT LIABLE. Although a contractor performs defective work and completes a dangerous structure, he is not liable in damages for injuries caused by the structure after the work is accepted by the owner.

For example, in Price v. Johnston Cotton Co., Inc., 40 S. E. (2d) 344, it was shown that a contractor constructed a platform attached to a building for the purpose of holding a tank. Later an employee of the Johnston Cotton Co. was injured when the platform gave way. He sued the contractor for damages. However, the higher court held the contractor not liable, saying, "It is the general rule that an independent contractor is not liable for injuries to parties occurring after the contractor has completed the work and it has been accepted by the owner."

Vat and Azoic Colors

(*Continued from page 123*)

which will dull the shades and stain the white portions of the fabric.

The "Diagen" and "Rapidogen" colors are mixtures of stabilized bases and Naphthol coupling components. The bases are stabilized in the form of diazo-imino compounds which are split by acid-steam ageing or hot-acid-bath treatments to produce the diazotized bases *in situ*. The "Diagen" colors are readily dissolved in caustic soda solutions which are then incorporated into a printing thickener. The printing paste is applied to the white goods, and the color is usually developed by passing the dried printed goods through an atmosphere of steam charged with a mixture of acetic and formic acids. Under these conditions of ageing, the diazo-imino compounds is split; and the liberated diazo component couples at once with the Naphthol component to form the color. An alternative method of development consists of passing the printed-and-dried goods through a hot acid bath saturated with common salt.

These colors provide a wider range of shades for printing than the Naphthol bases and salts, because the Naphthol coupling component, which is applied as a "prepare" for printing with bases and salts, need not be highly

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In the manufacture of woven cotton colored yarn materials such as shirtings or chambrays, Pennsalt Hydrogen Peroxide performs a dual function: it brings up backgrounds to sparkling whiteness, and it develops the vat color to a more insoluble state.

Textile manufacturers find it an ideal bleaching agent for wool, silk, rayon, cotton yarns and woven cotton fabrics. That's because Pennsalt H_2O_2 is

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Pennsalt Hydrogen Peroxide is furnished in 100 volume and 130 volume strengths in 120 lb. carboys and 265 lb. drums. Our technologists will gladly aid you with your bleaching problems. Consult them, or write to us direct for specific information about H_2O_2 and other Pennsalt products.

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substantive when applied with a stabilized base. Consequently, many Naphthol coupling components of relatively low substantivity for cotton and rayon are used in the "Diagen-Rapidogen" lines, thus making available to the printer a broader range of shades.

These types are often printed in combination with other colors. For multi-colored effects on cotton and rayon, they have been printed with soluble vat colors, pigment colors, and aniline black. They provide a good range of bright, strong shades, especially in the scarlet and red tones, which are fast to washing and fairly fast to light in heavy shades.

VAT COLORS. Under this generic classification are found the latest dyestuffs used in the printing industry. In comparison with all the other classes of colors, they are outstanding in their fastness to light, washing, acids, alkalies, bleaching, and other destructive agencies encountered in consumer use. Consequently, on articles such as shirtings and draperies, where maximum fastness is a prime consideration, the vat colors are used to produce the highest quality work.

Vat colors for printing are marketed in the form of the so-called "soluble" vat colors and as insoluble pigments of fine-particle size well-dispersed in aqueous pastes. The "soluble" vats are sulphuric acid esters of the "leuco" or reduced forms of the colors. These are printed with oxidizing agents and, after drying, the prints are acid-aged to convert the vat color to the oxidized form within the fiber.

It is interesting to note that two major hazards to proper dispersion of vat-color pigments have been encountered and overcome. The pastes are subject to freezing in very cold weather. Should this occur, the dispersion is damaged by the growth of large color aggregates which would appear as specks in the prints. Also, evaporation of moisture from the pastes during storage, especially when the pastes are exposed to a warm atmosphere, may result in contamination of the pastes by dried color particles which fall from the side of the container into the main body of the material. Both of these threats to the maintenance of proper dispersions for printing have been met by the production of pastes containing hydroscopic agents. These compounds prevent drying out, and they also lower the freezing point of the pastes so that they remain in good condition in the coldest climates.

APPLICATION. As a class, the vat colors are characterized by their ability to form soluble "leuco" derivatives which possess affinity for cellulosic

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Vat Dyes

Possessing extraordinary fastness to sunlight, salt water, perspiration, chlorine and exposure to weather, CALCOSOL and CALCOLOID vat dyes quite naturally "take to the sun." That's why they're ideal for play clothes and beachwear made of cotton, linen, rayon and mixtures.

Your Calco representative will gladly advise you on the superior characteristics and the wide range of colors offered in CALCOSOL and CALCOLOID vat dyes. CALCO CHEMICAL DIVISION, AMERICAN CYANAMID COMPANY, Bound Brook, New Jersey. New York, Chicago, Philadelphia, Boston, Charlotte, Providence.

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fibers and many other textile materials. They are applied to the fiber from a printing paste usually thickened with starch and British gum and containing a stable reducing agent and an alkali. After drying the print, the goods are aged in a neutral steam atmosphere at 215° F. to 220° F. for about 5 min. During steaming, the stable reducing agent, sodium formaldehyde sulfoxylate, is decomposed, yielding an active, strong reducing agent, probably sodium hydrosulfite. In the presence of the alkali, potassium carbonate, this agent reduces the color to the alkali-soluble "leuco" form of the dye which dyes the fiber in the printed portions of the fabric. Upon completion of the ageing, the printed goods are subjected to oxidation with, for example, sodium dichromate and acetic acid and then soaped vigorously to remove the thickener and unfixed color. The oxidation treatment reconverts the "leuco" color to the oxidized pigment form of the dye which is now trapped within the fibers.

While all vat colors may be applied more or less satisfactorily by this general method, the colors may be conveniently divided into two groups, the anthraquinone and thioindigoid types, for a consideration of their printing properties. The anthraquinone vats are derived from anthroquinone; and its various substitution products, from benzanthrone and from pyranthrone.

MAXIMUM FASTNESS. The most durable members of the vat color range are in the anthraquinone class which furnishes the colors used to a large extent in the production of shirting, draperies, and other items where maximum fastness to light and washing are required. Although an adequate range of dyes is available for producing all the important shades in printing, not all of the individual members of the anthraquinone class are satisfactory printing colors. Some important types used for dyeing fail to yield full color value when applied by the conventional printing method, thus restricting their use on an economical basis. Great improvements in the utilization of these colors have been made by the development of assistants for printing, and now it is possible to economically employ many vat colors having outstanding fastness to light which formerly were ignored because of their poor printing properties. At the present time, a full line of fast dyes in a wide range of shades is available comprising selected anthraquinone types and the thioindigoid colors.

It was stated previously that the vat dyes are usually printed with starch-British-gum mixtures. It is well known that starch is the least expensive thick-

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Newsworthy items for textile technologists and production men

Volume 1 AUGUST, 1947 Number 4

One-Treatment Finish for Nylon Hose with Lasting Effects

Used in either paddle or rotary machines, without changes in operations or equipment, Eternalure D-15 provides a finish that lasts for the life of the hose.

This water dispersion of a purely synthetic resin is noteworthy in the qualities it imparts to the hose and in the improvements it offers in finishing operations.

From the selling viewpoint it clarifies and tightens the stitch, improves the body and hand, while imparting exceptional snag resistance.

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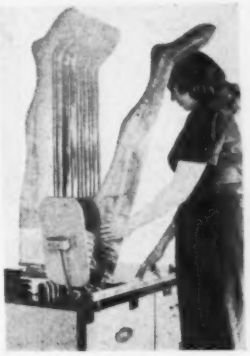
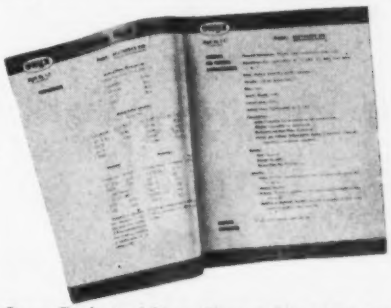


Onyx Technical Data Sheets

There comes a time in the process of investigating the adaptability of a material for textile finishing when facts without trimmings are wanted. That is the function of



Onyx Technical Data Sheets. The plain facts presented include chemical and physical characteristics, performance data, major production advantages and detailed information on applications.

More are in preparation, but at this writing, Onyx Technical Data Sheets are available for the following products:

Eternalure D-15	Repel-O-Tex D3 and D4
Phi-O-Sol WA	Neutronyx 330
Repel-O-Tex 115B Special	Dullatone CA
NSAE Paste	NCF Paste
Onyxsan LG	Stearo Glyceryl Sulfate N
Oroset L	Larvonil P
Imularv P and Imularv S	

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Imularv P is applied in water solution, usually in the pad. Imularv S is applied in organic solvent solution, usually in a spray. Both materials are completely stable and compatible with all but anionic surface-active materials.

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ener because it allows little penetration of the fabric by the printing paste and results in the maximum apparent visual color strength. However, except in rare cases, it cannot be used as the sole thickening agent because of its relatively poor transfer properties. Starch thickeners are typically "short," (to use a term of the printing-ink industry) and they are not picked up cleanly from the engraving of the printing roller at high speed. The result is mottleness and unlevelness of the design. Consequently, the thickener is usually modified by mixing starch with soluble gum having "long" ink characteristics, such as British gum, karaya, etc. Improvements in color value of prints are often obtained by addition of glycerin or glycols to the printing thickener. The action of such assistants is specific, and care must be taken to avoid undesirable effects on one color while improving another. For example, alkali salts of benzene and naphthalene sulfonic acids, specific assistants for certain colors, cause pre-reduction of others in the printing paste. In such cases, the color may be caused to speck in the thickener, and the shade may be weakened and dulled.

AFTERTREATMENT. After printing, the fabric should be dried as quickly as possible. The temperature of drying (as on steam-heated dry cans) should be controlled so that the stabilized reducing agent (sulfoxylate) does not decompose. Steaming of the goods must then follow as soon as possible. Storage of the goods in a warm, moist atmosphere causes gradual decomposition of the sulfoxylate reducing agent, and it usually results in weak, uneven prints. After the steaming operation, it is the usual practice to oxidize immediately because exposure of the "leuco" vat to bright light causes color decomposition. A common oxidizing agent is sodium dichromate-acetic acid mixture. Sometimes brighter shades are obtained with sodium perborate. Vigorous soaping of the goods is then required to secure maximum fastness and brightness of the color.

Trash in Cotton

(*Continued from page 131*)

Based on conversions from color measurements, Fig. 4, the grade improvement was:

Harvesting method	*Grade improvement* College Station cottons	Lubbock cottons
Hand picked.....	1½	1+
Hand snapped.....	2	2+
Machine picked.....	2	—
Machine stripped.....	2½	1+

The amount of trash removed from

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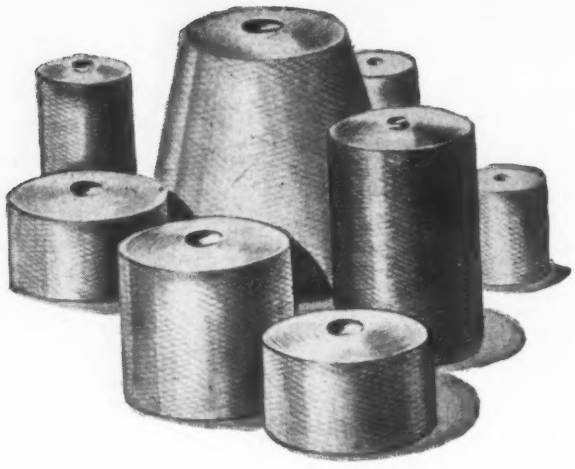

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the cottons by cleaning them on the Shirley Analyzer, Fig. 5, was approximately as follows:

Harvesting method	Waste removed (%) College Station cottons	Lubbock cottons
Hand picked	3	3½
Hand snapped	5½	5
Machine picked	5½	—
Machine stripped	9	5

GROUP NO. 2. The 170 cottons in the second group, which included the 24 cottons in group No. 1, ranged in grade from 3 to 9, Fig. 6. They were broken down into four classifications: White, regular; White, bright; Light Spotted; and Gray.

Improvement in grade, based on classification, Fig. 7, was as follows:

Cotton	Grade improvement
White, regular	1 to 1½
White, bright	1½ to 2½
Light Spotted	1½ to 2–
Gray (only one sample)	3

The grade improvement, based on color measurements converted to equivalent grade, Fig. 8, was as follows:

Cotton	Grade improvement
White, regular	½ to 1½
White, bright	½ to 3
Light Spotted	½ to 1
Gray	1

Visible waste removed from the cottons by cleaning them on the Shirley Analyzer, Fig. 9, were:

Cotton	Waste removed (%)
White, regular	½ to 3–
White, bright	1 to 9½
Light Spotted	1 to 1½
Gray	1½

GROUP NO. 3. The 336 hand-picked samples ranged in grade from 4 to 8 and were broken down into nine color classifications, Fig. 10. Four of the classifications are gradations of White, and two are gradations of Spotted.

Improvement in grade, based on classification, Fig. 11, was:

Cotton	Grade improvement
Gray	1 to 2
Extra White	½– to 4
White	1 to 1½
Spotted	Negligible to 1½
Tinged	1

Improvement in grade, based on color measurements converted to equivalent grade, Fig. 12, were:

Cotton	Grade improvement
Gray	1 to 1½
Extra White	¾ to 1½
White	½ to 1½
Spotted	½– to 1½
Tinged	1

The amount of visible waste removed by cleaning the cottons on the Shirley Analyzer, Fig. 13, varied from 1.71% for Grade 4 to 6.19% for Grade 8.

On the basis of the data presented in this study, it is concluded that by removing all the trash in cotton the

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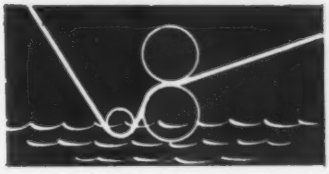

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grade will be improved somewhat less than 1½ grades by classification and about one grade by color measurement. The color-measurement improvement ranges from ½ grade for the higher grades of cotton to 1½ grades for the lower grades.

Saturated Brine

(*Continued from page* 135)

ter dial, the operator closes the valve.

As a result of the economies that this new method of using salt has made possible, plus the savings that occur from substituting rock salt for evaporated salt, the company saved more than the cost of the installation during the first year of its operation.

Based upon the rigid and simultaneous application of various principles of physical chemistry, the system used is completely automatic for making fully saturated, self-filtered brine from inexpensive rock salt in a way that appears deceptively simple and uncomplicated. Essentially, the equipment consists of a storage hopper, a brine-making tank, a filter bed of rock salt, and a brine-collection chamber.

The hopper, which is located at the top of the unit, is completely filled with rock salt, which flows down into the tank as the salt there is dissolved. Water enters the tank through a spray nozzle, or, in the large installations, through a series of spray pipes, at the same rate that saturated brine is withdrawn from the system; inflow is controlled by a float valve.

As this water flows downward, it dissolves salt until it becomes fully saturated some distance from the bottom of the tank. From that point on, the remainder of the rock salt acts as a filter which takes out insoluble matter, leaving a saturated brine that is 99.6% pure sodium chloride. When it reaches the bottom of the tank, the brine flows to a brine-collection chamber, from where it is pumped, or flows by gravity, to any part of the plant requiring it.

Success in making brine by self-filtration depends in part upon the accurate determination of the dimensions of the rock-salt storage space, the dissolving area, and the filter bed—upon exactly how much rock salt is required in the storage hopper to meet the needs of each plant, how long the dissolving area must be to insure an adequate supply of brine, determination of the exact point in the tank at which the brine becomes saturated and self-filtration begins, and how deep the filter bed should be.

NO SEPARATE HOPPER. In large installations like the one at Dan River Mills, the hopper has been eliminated as a separate unit; and the walls of the

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dissolving tanks have been extended upward some distance, with the result that large quantities of rock salt can be stored there above the liquid level in the tanks. As rock-salt below this level is dissolved, it is automatically replaced by salt from above the level.

The Dan River Mills installation is capable of dissolving 10.6 tons of salt every hour. It has a total brine-making capacity of 8,000 gal. per hr. and consists of four separate units, each 10 ft. wide, 20 ft. long, and 25 ft. high, placed side by side next to a rail siding outside the raw-stock dye house. Cars of rock salt are delivered directly to this siding and unloaded into the storage bins. Unloading them is the only salt-handling operation in the plant. Water enters each unit through spray pipes running from one wall to the opposite wall and placed some distance above the floor level. Above these pipes is the rock-salt storage space.

Besides being able to control exactly the quantity of salt added, operators have accurate control of the rate of addition, too; brine may be added in a trickle or all at once. The comparatively few gallons of brine added to the total volume in the dye bath circulating in the machine is immediately diluted and dispersed throughout the entire volume of the bath, and there is no excessive amount of brine at any one place at one time.

In addition to the economies already mentioned at Dan River, waste of salt has been eliminated. Inevitably, when trucking evaporated salt from one point to another some of it is spilled. In addition, some of it is wasted in the bath because quantities of dry salt measured by volume vary even though great care is taken to fill the measuring bucket or shovel to the same level each time. The difference in weight between loose and compacted evaporated salt will vary from 10 to 20 or more lb. per cu. ft. depending upon the amount of compactness. A certain type of fine salt, for example, weighs 66 lb. per cu. ft. loose, 77 lb. packed, 84 lb. heavy packed; and if absorbed moisture further aids the compactness, the dried weight is 92 lb. per cu. ft.

Weighing the salt before adding it to the dye bath does not solve the problem, because the weight of salt varies too, depending upon humidity, length of storage, and varying bulk and area of the stock-pile. Kiln-dried salt in a stock pile may contain from 0.05% to 5.0% moisture, with the change taking place in less than 48 hr. in very humid weather. The result is that 100 lb. of "salt" may actually be 95 lb. salt and 5 lb. moisture. Air-dried salt varies even more in weight,

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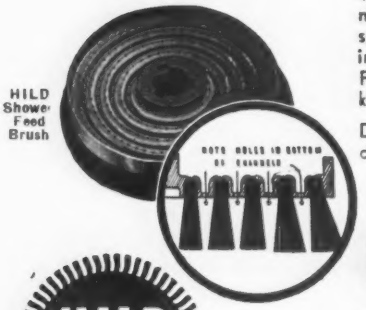

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RAYON YARNS

We continue to offer a flexible service combining superior workmanship in the

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of filament, spun rayon, and nylon yarns.

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at times deliquescing sufficiently to form pools of brine underneath it.

SALT SAVING. There is a further saving that results from the fact that brine added to a dye bath is more efficient than evaporated salt. When brine is added, all of it is used as an exhausting agent; whereas with dry salt, an excess must be employed to achieve the same results. One gallon of saturated brine, which contains 2.65 lb. of salt in solution, is equivalent to 3 lb. of dry salt as the exhausting agent in the dye bath. For every 100 gal. of brine used only 265 lb. of rock salt are required to accomplish the same dye exhaustion as 300 lb. of evaporated salt, thus effecting a 12% saving in salt consumption. To this may be added the economies that result from the fact that rock salt costs less than evaporated salt.

Silk Program

(*Continued from page 133*)

the case of silk, there is only one seller now and for some time to come, be it USCC, SCAP, State Department, or the Japanese government under supervision.

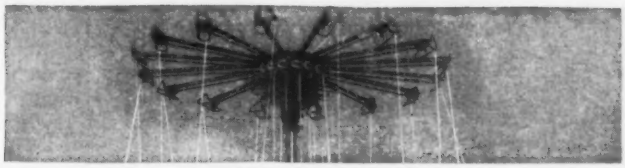
The present price program for raw silk was arrived at by trial and error, according to USCC, which believes that it is as fair to all interests concerned as is possible at this time. It is recognized, however, that the frequent changes in raw-silk pricing have been a source of worry to the industry and that price uncertainties are a factor in the current reluctance to accumulate inventories.

PRICE HISTORY. When silk was taken off the market by the Government in 1941, it was selling for $3.08 per pound. In 1946, when it again appeared on the market, it was handled for a time by two agencies simultaneously—the War Assets Corp., which disposed of declared war surpluses, and the USCC, which came into the picture because of authorization by War, State, and Commerce Departments to handle imports from Japan and Germany, including raw silk rrom Japan.

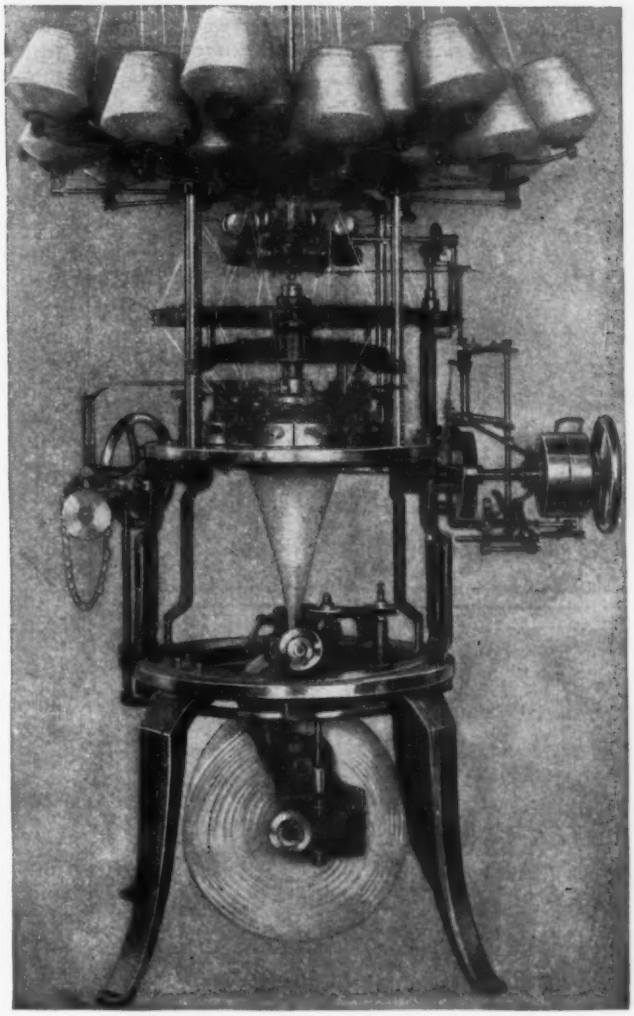
The War Assets Corp. ran its only sale of raw-silk sealed bids in April, 1946, and limited it to knitters and weavers who had made silk available to the government during the war period. Some 3,300 bales were sold at from $8 to $23 per lb., averaging over $13 per lb.

USCC came into the picture as the liaison between General MacArthur's SCAP and the American buyer of raw silk. SCAP turns over to USCC exportable raw silk for sale in this coun-

WILDMAN Multiple-Feed RIB MACHINE



TOPS IN VOLUME · STYLING · PRECISION



First of all, and perhaps most important in view of the strong and increasing demand throughout the market for knitted garments: —this Wildman Multiple-Feed Machine will DOUBLE PRODUCTION or BETTER on the same floor space in your plant that a regular 8-feed machine occupies.

In addition, it offers many operational advantages, namely:—feeding the yarn under such even tension that uniformity in garment sizes is easy:—the ability to tie cone to cone without stopping the machine; the greater variety of style opportunities, and other features we would like to tell you about.

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WILDMAN MFG. CO., NORRISTOWN, PA.

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UNIFORM CONDITIONING

"HW" Equipment
FOR CONDITIONING AND TWIST SETTING OF WOOLEN · WORSTED SILK · RAYON · NYLON · COTTON

Increase your I.Q. about conditioning and twist setting. Get this informative Brochure on the problems and solutions of conditioning woolen, worsted, silk, rayon, nylon and cotton. Learn how twist setting can be done thoroughly and uniformly with no damage to material. It tells briefly and explicitly many facts that reveal how savings up to 90% have been effected in many plants. Write for Brochure UC1.

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All rings of the same diameter or depth are not exactly alike. It is therefore natural that the same Traveler may not give equally good results on these different rings.

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STERLING RING TRAVELER CO.
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try. Net proceeds of sales go to the War Department after USCC has deducted freight costs, insurance, warehouse expenses and 2% of the proceeds for administrative costs. Funds received by the War Department go back into the treasury as a slight offset to occupation costs.

Three methods of sales have been tried out by USCC, each of them, it is claimed, after consultation with the trade. On the basis of sealed bids, 5,230 bales were sold in July, 1946, at an average price of $9.79 per lb., which was considered by the trade as too high, but certainly an improvement over the War Assets Corp. sale price. While the silk segment of the industry was not by any means unanimous in its opinion that sealed bids offered the best vehicle for disposal of silk at that time, USCC spokesman points out that one firm, for example, was able to make a half-million dollars at that price on a comparatively small investment. Two other sealed bid sales were held by USCC—one in August 1, 1946, of 2,260 bales at an average price of $7.96 per lb. and one in September of 4,899 bales averaging $8.32 per lb.

Open auctions with upset prices was the next method of sale. During the last three months of 1946, about 9,000 bales of raw silk were sold with a drop in prices from an average in October of $7.65 per lb. to $6.74 in November and December. On Jan. 20, 1947, USCC announced that its final auction would be held Feb. 7, then over the counter. About 5,370 bales were sold with another drop in price, averaging $4.57 per lb.

EFFECT OF RUMOR. The USCC then announced that raw silk would be sold only at certain announced prices, and dealers could buy directly at these scheduled prices. Hardly had the prices been established than a rumor circulated in the trade that USCC was going to reduce prices in June, with the result that in April only 152 bales were sold at an average price of $5.05 (slightly higher than the two previous months because of the higher quality of silk purchased). May 1, the USCC said that February prices would remain in effect for the remainder of this year, resulting in a sale of about 3,000 bales in May. In June, the amount of sales dropped to about 400 bales, reflecting partially a seasonal drop and partially an uneasiness in the trade regarding future prices, according to USCC.

What effect an increasing amount of Japanese piece goods may have on sales of raw silk in this country is a matter for speculation, SCAP is diverting much of it to the Far East, but

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TRADE MARK REGISTERED

ARRESTS FRICTION

NON-FLUID OIL arrests friction because it provides positive lubrication upon split-second demand as soon as your machinery starts up. It does not have to be aided or softened by frictional heat before starting to lubricate—as is the case with ordinary greases. In fact, NON-FLUID OIL keeps bearings noticeably cooler.

Furthermore, it outlasts grease several times, its greater durability being especially marked when it is used in warm weather or on machinery in hot locations. Under such conditions grease melts and wastes freely, but NON-FLUID OIL retains its consistency, not being affected by temperature changes.

NON-FLUID OIL, the modern lubricant, is produced from the very highest grade petroleum. A special process enables it to overcome the drawbacks of oil and grease. It is produced in grades exactly adapted to the lubrication of every type of machine. NON-FLUID OIL is applied in the same way as liquid oils and greases and does not require the purchase of any special lubricating appliances or any changes in lubricating technique.

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"Since using NON-FLUID OIL we have practically eliminated bearing failures which we had experienced in the past."

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Please send testing sample of NON-FLUID OIL to be used in the following machinery:.....

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Is Down Time a pain in your neck?

Thousands of RunRite Plastic Sheaves have been running continuously, in many plants, for over six years, and still going perfectly. Under similar conditions they should do equally as well for you. Figure your savings in reduced down time alone. Then, bear in mind, that RunRites' smooth, perfectly balanced strap surface means longer life to harness straps. Once installed, they need no further attention for years of dependable service.

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larger quantities than have previously been received here are bound to come to this country in spite of the 55% *ad valorem* tariff charges on plain silk and the 65% on brocaded goods.

There is a difference of opinion as to whether lower prices for raw silk would dispose of the stockpile. It is pointed out that this fiber must compete with synthetic fibers for its market, and it is at an increasing disadvantage from a price standpoint. One authority estimates that at $2.40 per lb., which was the average for Japanese silk from 1939 to 1941, raw silk would cost six times as much as rayon. Furthermore, statistics show that the trend of silk consumption since 1931 has been downward. In 1940, the last full pre-war year in which raw silk was on the market, the U. S. consumed only 35,800,000 lb. which was only 0.7% of U. S. fiber consumption.

Permanent Magnets

(*Continued from page 119*)

sulation strip of form-rolled aluminum which provides a lip to prevent the leakage of both material and magnetism when mounted on a steel plate or in a sheet metal duct. The assembly can be engineered so that it is accessible for cleaning by wiping the accumulation to one end of the magnet and twisting it off. With permanent magnets, there is little danger of losing the accumulated tramp iron into the cleaned stock.

The first full-scale installation of permanent magnetic separators was reported to have been made in April, 1945, in Firestone Textiles' opener room at New Bedford, Mass., by Eriez Mfg. Co. After thoroughly testing an Eriez Magnetic Hump installation in an air line between the bale breaker and vertical opener and securing perfect results, Firestone Textiles then ordered five more of these units, completely protecting all of their lines. To date, there has not been a single fire traceable to tramp iron material in this mill, nor has there been any damage to carding machinery due to stray parts of ferrous metal.

Simplest of the magnet installations is the incorporation of a permanent magnetic plate, or plates, as part of the bottom of a gravity flow chute or on the discharge plate of a blending feeder. Room to install a 7-in. length of magnet plate the full width of the material flow is all that is needed unless the depth of material or pitch of discharge is excessive.

In some textile processes, the nature or condition of the fiber, or the way in which it is handled, prevents complete removal of tramp iron before it reaches the spiked apron feeder of the

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Electronic
MOISTURE CONTENT CONTROL

A New and Improved All-Electronic Controller

The operating principles of this new controller are the same as the MCC unit which we have manufactured for eight years — and which has helped to increase quality and production of warp and cloth in hundreds of mills. The new unit has these *additional features:* • It is ALL-ELECTRONIC. There are no open relay contacts and very few moving parts, thus assuring maximum performance with minimum maintenance. • It is housed in a COMPACT CABINET that can be mounted on a floor pedestal or a wall bracket. • There is only ONE MODEL, but it can be used for all types of warp or cloth as processed on slashers, dryers, or tenters. • CALIBRATION adjustments are improved and simplified. • An IMPROVED CONTROL CIRCUIT will handle any type of variable-speed drive. • ACCESSIBILITY is greatly improved because all adjustments and all parts requiring maintenance can be reached by opening a single door.

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ANOTHER UNIT OF COMPLETE SLASHER CONTROL BY BARBER-COLMAN

SEND FOR Bulletin F3156 for complete information on this new development. Learn how it can help to solve your drying problems. Ask your Barber-Colman representative for specific advice on your requirements.

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45 YEARS EXPERIENCE SERVING TEXTILE MILLS

ROCKFORD ILLINOIS BOSTON MASSACHUSETTS GREENVILLE SOUTH CAROLINA GREENSBORO NORTH CAROLINA ATLANTA GEORGIA

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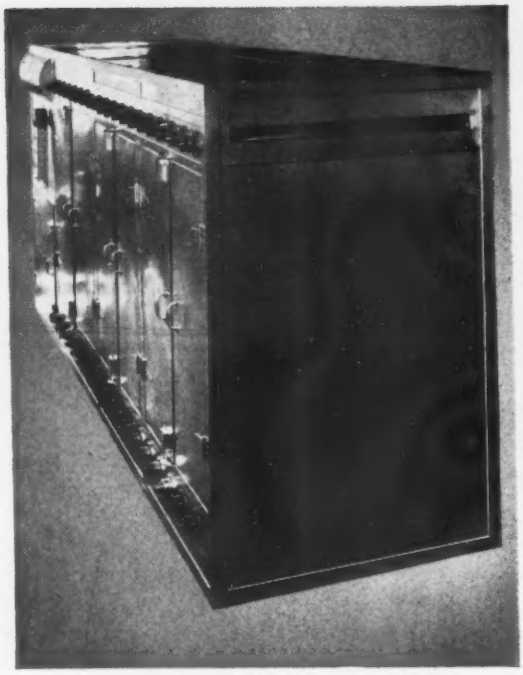
RESIN CURING MACHINE

Resin finishes require a wide range of curing temperatures. The IHE Curing Machine is automatically controlled up to 450F. Ample capacity assures uniform cure at relatively high speeds. Direct gas or oil firing provides quick, clean, controlled heat. Forced exhaust removes fumes.



- Requires no steam supply
- Fully automatic operation
- Fired with either gas or oil

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Textile Drying, Curing and Singeing Equipment
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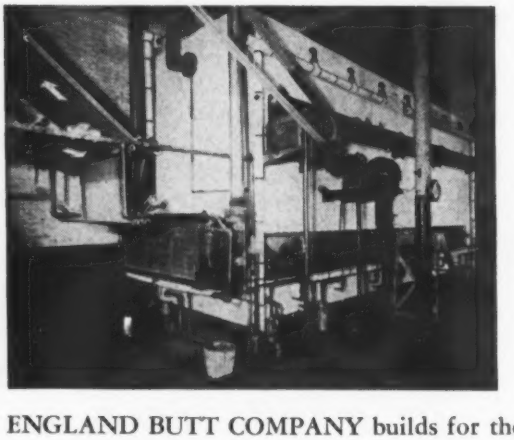

NEW ENGLAND BUTT COMPANY builds for the textile trade a complete line of both vat and acid AGERS, as well as open SOAPERS and WASHERS.

Butt machines present the latest design features in textile equipment.

Tell us your requirements

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ESTABLISHED 1842
PROVIDENCE 7, RHODE ISLAND

garnett. If this condition is suspected, a small section of magnet can be suspended experimentally over the spiked apron, and the actual amount of tramp iron in the stock can be calculated.

GARNETT MAGNET. For simple magnetic protection immediately ahead of the garnett, engineers have worked out a two-section compact magnetic separator which is installed over the top of the spiked apron of the feeder which virtually yanks both large and small pieces of tramp iron and steel out of the material as it slowly passes through the powerful magnetic field.

Thorough removal of small ferrous pieces is easily accomplished by the installation of this magnet over the top of the spiked apron. Here the material is well opened up, is traveling at a relatively low rate of speed on the spiked apron, and must pass through a very concentrated magnetic field so close to the magnet that a very efficient and positive separation is achieved.

Another one of the most difficult of all tramp-iron-removal problems is the removal of tramp iron from waste materials before entering choppers, shredders, pickers, and willows.

One effective way of removing this tramp iron is the use of a double or triple row of plate magnets installed in a picking table ahead of choppers or shredders, where the operators are sorting material and can be on the lookout for tramp iron caught by the magnet. The use of a multiple-row plate magnet at this point has the advantage of removing the larger and more damaging pieces of tramp iron ahead of the first chopping or shredding equipment, which from the standpoint of the insurance companies is most desirable since it is at this point that fire hazard is great. This is particularly true where shredders are being used.

Insurance records reveal that the three leading reasons for textile fires are (1) foreign contamination in material, (2) failure of electrical equipment, (3) friction.

For these reasons, insurance companies are continually urging processors to incorporate permanent magnetic protection. For instance, Factory Insurance Association of Hartford, Conn., says, "The use and value of permanent magnets has increased in recent years, because of the improvements in design of the physical magnet and composition of the metal itself.

"The permanent magnet has sufficient strength to give complete satisfaction when properly installed. The permanent magnet is simple—requires practically no maintenance other than cleaning of collected trash, is easily understood and maintained by ordin-

Rayon Reports

Published Monthly by American Viscose Corporation, New York, N. Y. August, 1947

AVC Opens Service Department for F.N.F. Knitting Machines

Timed with the first arrival in this country from England of the production model F.N.F. high-speed warp-knitting machine, American Viscose Corp., sole United States selling agent for F.N.F., Ltd., has set up a complete Service Department for machines at its Textile Research Department, Marcus Hook, Pennsylvania.

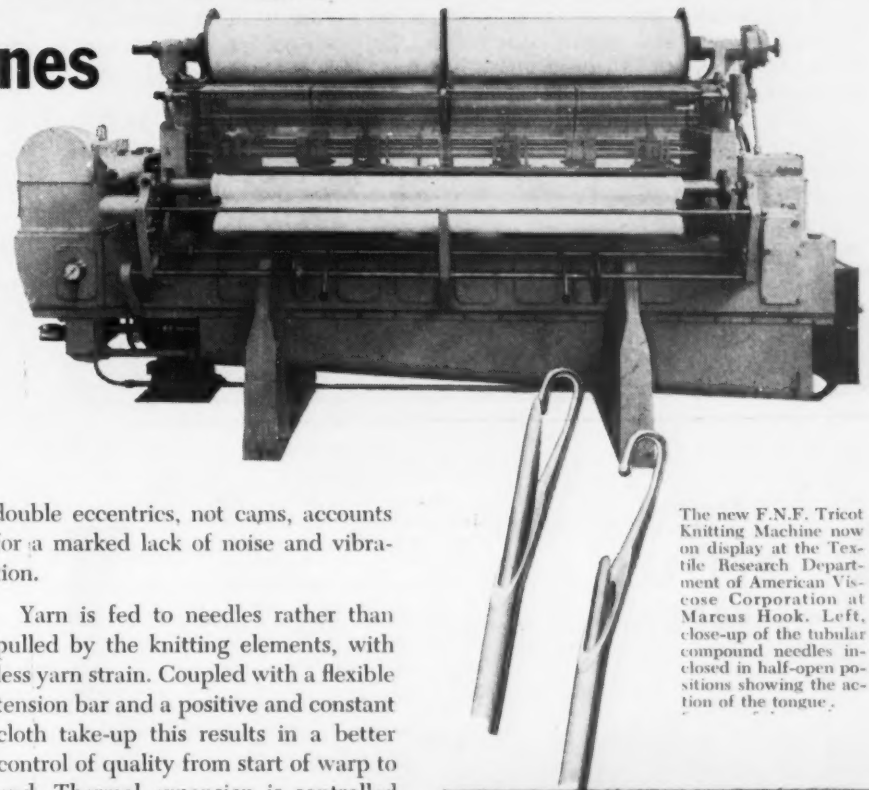
The 84", two-bar tricot machine is the first of a series to arrive regularly. An American Viscose representative, trained at the F.N.F. factory, Burton-on-Trent, England, is in charge of the Service Department.

The machine can be seen by appointment at Marcus Hook, where a continuous program of experimental patterning work using a wide variety of yarns of different sizes and types is already under way. The Service Department will carry a complete line of spare parts including pattern wheels and the new tubular compound needles which are a special feature of the machine.

Beside the needles, the F.N.F. machine boasts of many other advantages. The machine cruises easily at 1000 courses per minute, which is well within its designed top speed. The use of double eccentrics, not cams, accounts for a marked lack of noise and vibration.

Yarn is fed to needles rather than pulled by the knitting elements, with less yarn strain. Coupled with a flexible tension bar and a positive and constant cloth take-up this results in a better control of quality from start of warp to end. Thermal expansion is controlled on needle, tongue, guide and sinker bars. There is a built-in pressure lubrication system. The machine stops immediately if a single thread breaks.

Appointments to see the machine can be arranged by writing the American Viscose Corporation, 350 Fifth Avenue, New York 1, N. Y.

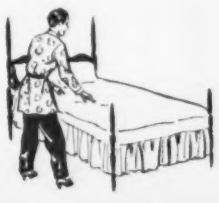


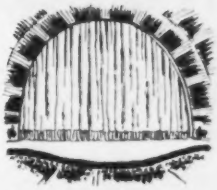
The new F.N.F. Tricot Knitting Machine now on display at the Textile Research Department of American Viscose Corporation at Marcus Hook. Left, close-up of the tubular compound needles inclosed in half-open positions showing the action of the tongue.

RAYON 20 YEARS AGO

Production on a commercial basis has begun at the new plant of The Viscose Company, Parkersburg, W. Va.

Pajamas for women are looked upon by the United Underwear League of America as an important new outlet for rayon.





The huge drop curtain of the brand new Roxy Theater in New York City is made of flame-resistant rayon . . . first of its type.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
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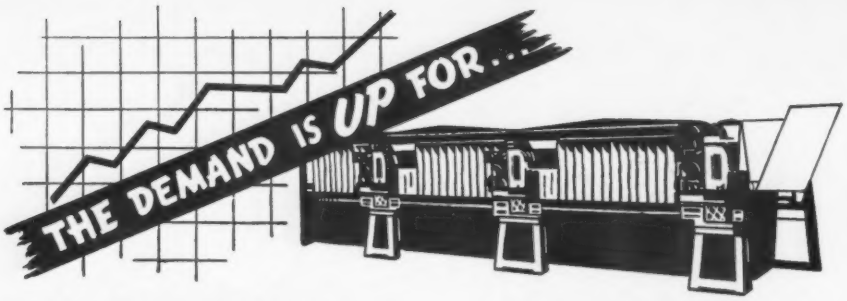

DRUMMOND Soap and Flakes

EASY TO USE - SUDS BETTER

Demand of the textile industry is up for Drummond Soap Flakes! And no wonder. These easy to use and quick sudsing flakes possess the same formula features of Drummond Soap—well known in the industry for years.

Now you have your choice, Drummond Soap Flakes — or Solid Drummond Soap!

Both have the advantages of high body and low alkali content — advantages that leave fabrics clean with a downier feel, brighter colors, and whiter whites. Try a sample and note the difference.

Write today for your FREE working sample of Drummond Soap — just ask for Flakes or Solid.

Standard Soap Co. of Camden

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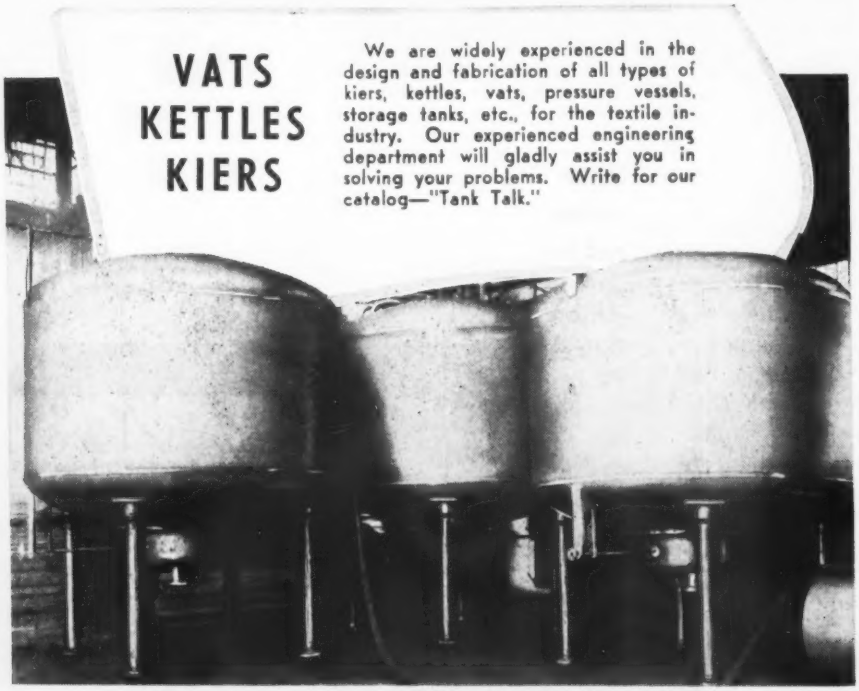
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ary labor, does not depend on outside sources of power, is relatively light in weight, extremely flexible in design, economical in cost, and presents no additional fire hazard of its own to the process protected. Numerous installations of permanent magnets are operating with complete satisfaction in many textile mills."

Nylon Staple

(*Continued from page 115*)

grip, the bunches are held longer and are given a more thorough combing by the teeth of the lickerin. While the lickerin will not cause a complete separation of the fibers, the bunches fed to the cylinder are much smaller and finer than the tufts released by the lickerin fed by a regular feed plate.

Loading of the lickerin will develop if the card is not kept in first-class condition. A special type of wire with a low rake has been developed for the lickerin to overcome this trouble, but nylon can be run with a regularly clothed lickerin. The cylinder wire should be kept well cleaned in order to relieve the work of the lickerin and lessen the possibility of loadings. The speed of the lickerin should be reduced to at least 200 rpm. A speed of 180 will give the best results in a majority of cases. This speed can be obtained by the replacement of the usual 6½-in. driven pulley with an 8- or 8½-in. one.

Loading of the cylinder may also develop into a major problem. The standard cylinder speed of 165 rpm. should be maintained, but some method of continuous stripping must be used on the card. This is practically essential to the running of the card, for when the cylinder loads up, the lickerin will do so. In most cases a fancy roll is positioned over the doffer in front of the card. The most satisfactory speed for the fancy is around 1,600 rpm. While a fancy roll on a flat card is unusual, and especially so on the front of the card, this position has been tested and found to give the best results. The wire of the clothing should be kept well ground, sharp, and in good condition. Loading will develop very quickly if the wire is jammed or damaged.

The mote knives and the cylinder screen may be left just as they are used for other work. Formerly, the mote knives were replaced with a steel plate in the belief that they were not needed, but this theory has been disproved.

The flats should be set very closely and their speed reduced to about 1 in. per min. To reduce the amount of flat strips, the top edge of the front stripping plate should be set as closely as

UNBRAKO SELF-LOCKERS

Reg. U. S. Pat. Off.

They dig-in and "stay put"

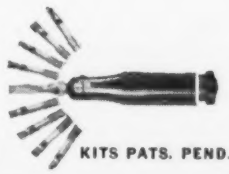
PAT'D AND PATS. PEND.

Self-Lockers—because their knurled cup points dig in and *stay tight*—even when subjected to the most chattering vibration. Yet, they can be backed out with a wrench and used *again* and *again*. That's why so many millions of these tough, dependable "Unbrako" Socket Set Screws with the Knurled Cup Points are used in industry. For complete information about these and other "Unbrako" Socket Screw Products . . . write for the "Unbrako" Catalog.

These "Unbrako" Screw Products are available in sizes ranging from No. 4 to 1½" in diameter and in a full range of lengths.

"Unbrako" and "Hallowell" Products are sold entirely through Industrial Distributors.

Knurling of Socket Screws originated with "Unbrako" in 1934.



KITS PATS. PEND.

You can't tighten or loosen socket screws without a hex socket wrench, so why not get our No. 25 or No. 50 "Hallowell" Hollow Handle Key Kit which contains most all hex bits.

"Unbrako" Socket Head Cap Screws with the knurled head save assembly time because the knurling provides a slip- and fumble-proof grip—though the fingers and head be ever so oily, therefore, they can be screwed in faster and farther before it becomes necessary to use a wrench. They can also be locked in place if heads are countersunk.

PAT'D AND PATS. PEND.

The "Unbrako" Socket Set Screw with Knurled Threads is a most excellent Self-Locker, too, because the knurling, as shown, swages the threads when locking results. To be used with points such as: flat, dog, cone and oval which do not lend themselves to knurling.

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STANDARD PRESSED STEEL CO.

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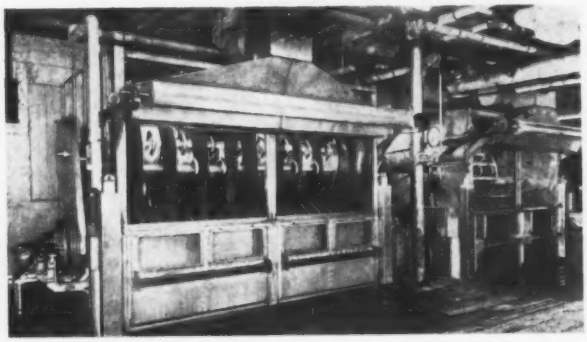

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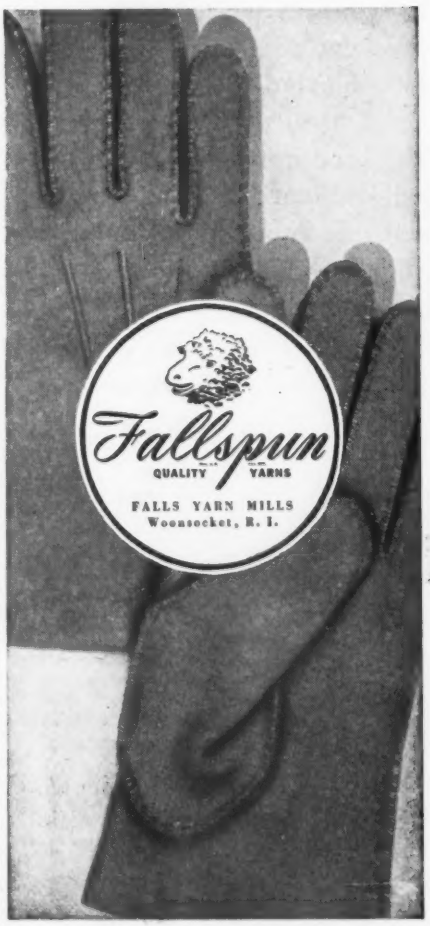


possible. The strips which are taken out may be returned to the opening room for reworking with the new stock.

WEB PROBLEMS. Considerable difficulty has been encountered in trying to keep the web from breaking down, particularly when the stock being carded was of a heavy denier. This sagging and breaking can be remedied by increasing the tension between the doffer and calender rolls through a change in the gearing. In addition, the web can be controlled somewhat by careful adjustment of the comb to the doffer.

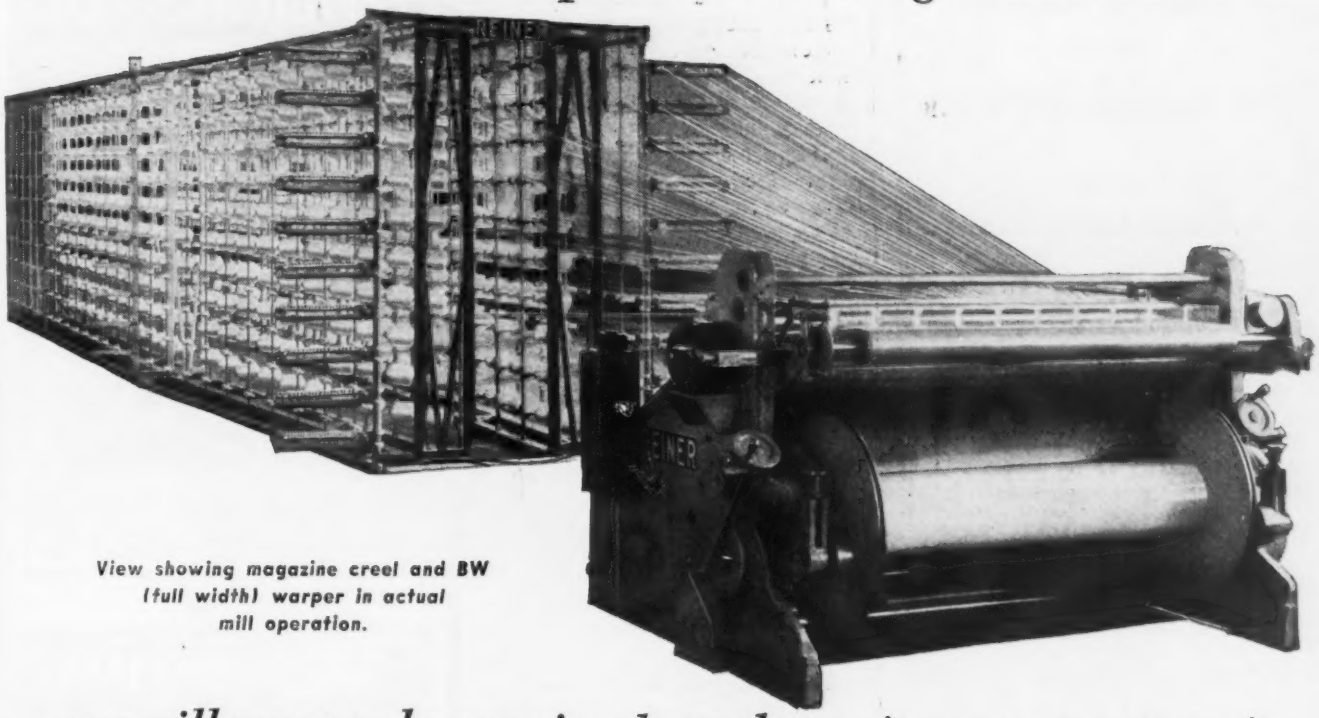
Static electricity may be encountered, and this problem must be solved if the processing is to be done efficiently. Static will cause the cylinder to become loaded and the web to become weak and uneven. Careful control of the humidity will help and may reduce the static to a point where it is too weak to cause trouble. If the humidity alone will not decrease the amount of electricity sufficiently, a special type of lubricant which will reduce the inter-fiber friction has been developed which will obviate this trouble. The lubricant is sprayed on the stock in the opening room when a lubricant is used.

Atmospheric conditions should be stabilized at a temperature of close to 78° F., with a relative humidity of from 55 to 65%. These figures may not be the best in all cases, especially when blends are being run.

The 1⅞-in., 1.5-den. staple may be processed on either the roller-top card or the revolving-flat card. However, the longer-length staple of heavier denier is more easily run on the roller-top card and is not recommended for use on the regular cotton system. The production of either type of card will not be high, for a low doffer speed must be used. The production will be from 7 to 8 lb. per hr. With a 50-gr. sliver, the doffer speed should not be far in excess of 6½ rpm. Increasing the production by means of raising the doffer speed will intensify the troubles encountered in keeping the web from stretching and breaking.

SPEEDS AND SETTINGS. Settings presented in the table accompanying this article for both the flat card and the roller-top card have been worked out through practical experience and should be satisfactory. These figures, however, should be regarded more as a starting point for experimentation in adapting the card to the local conditions than as absolute. When blends are being run, the settings will probably have to be changed for the best results, and in these cases particularly,

When Production Depends on a Single Thread—



View showing magazine creel and BW (full width) warper in actual mill operation.

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the best settings and speeds will be found by experimentation.

There should not be many difficulties or troubles in operating drawing frames when processing nylon, either alone or in a blend. Because nylon is an expensive fiber, the amount of waste should be cut to a minimum. This is best accomplished by maintaining a close watch on the mechanical fitness of the frames.

Old, dented cans, or cans which are split or broken, should be discarded. The use of rough cans is false economy for they cause stretched and uneven sliver, and therefore, poor, uneven yarn. A can which has been split and which has a rough, splintery edge will grip the fibers and will cause the sliver to be torn apart.

Drawing frames which are fed by cans or laps may be used. The use of a lap winder and lap-fed drawing frames is highly recommended, as there is a saving of floor space by elimination of the cans stacked in the back of the frames; waste of short ends in cans is eliminated, and production of more even sliver accomplished. This is because the sliver is not pulled from a can, dragged over its edge, and carried over the tops of other cans to the back of the frame.

In the drawing frame, as in the card, the attempt to attain too high a production will result in the loss of quality. The front-roll speed should not exceed 100 ft. per min.; and this speed should be attempted only on frames in the finest mechanical condition, with the rolls set exactly for the staple being run. A more conservative speed, which will produce higher quality work, would be a maximum of 90 ft. per min.

The only point which must be considered in the roving process is the twist multiplier. This multiplier must be considerably lower for nylon than for most other fibers, but the specific multiplier to be used will depend upon the blend and other local conditions.

A long-draft system should be used for both spinning and roving. The finer fiber control attained by these systems is essential to good work. The setting of the roll to the staple length must be more exact than with other fibers to prevent cockling. However, a little care in adjusting the frame to the stock will assure production of good yarn.

Many mills will find that the expenditure of a small amount of research with nylon, particularly in blending nylon with their present stock, will pay handsome dividends. The increase in quality of the work will more than repay the time and trouble spent adapting the mill to the inclusion of this fine fiber.

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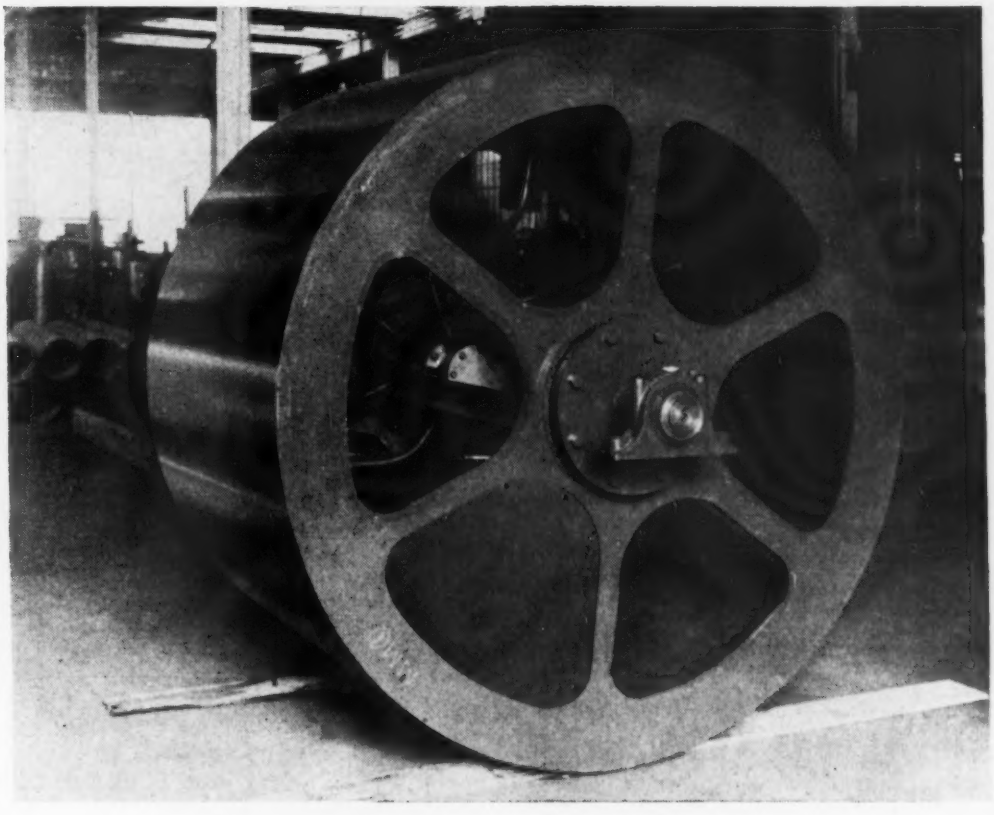

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Knit-Goods Adjustment

(Continued from page 117)

been idle, as the drop in cloth for sale might suggest. Some facilities have been changed from rayon cloth sold to cutters for making women's underwear to cotton cloth made by the knit mills themselves into men's union suits, shirts, and shorts.

Having accomplished these great production readjustments — accompanied, in some cases, by substantial price corrections—the knitwear divisions, like textiles and apparel generally, are now in better balance with their markets than at any time since the years just before the war.

REPLACEMENT BASIS. Only in exceptional cases is production still being retarded by a lack of supplies—nylon for women's stockings or cotton for panties. Demand backlogs for men's goods have been whittled down gradually, while supply surpluses for women's-wear have been marketed successfully. Hence, most of the industry is back to a replacement-demand basis.

As long as general business remains good and national income very high, knit goods like other textiles will enjoy favorable times. They will continue to encounter their own new competitive developments, in some cases having to do with methods of making knit goods, in others with fibers from which to make them, in still others with broad-woven fabrics seeking the same markets. But, at least, the most rapid and perplexing changeovers to more stable postwar conditions are now out of the way; and from now on technological and market changes can be expected to follow more uniform, gradual, and predictable patterns.

Textile Equipment News

(Continued from page 154)

the textile industry by elimination of tow-cutting, opening, picking, carding, and roving machinery.

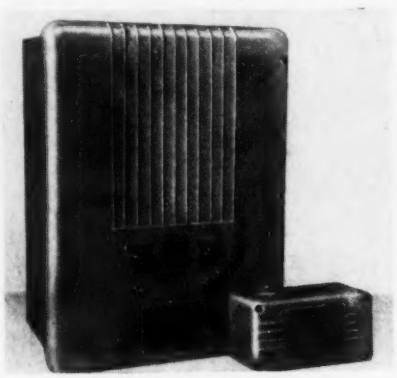
Continuous-filament rayon tow wound on spools is placed in a creel on top of the two-sided machine, and fed between a set of two rolls under a pressure of about 900 psi. These rolls feed the tow through a funnel to a second pair of rolls revolving at a higher speed than the first set under approximately the same pressure. The funnel is designed to prevent the broken ends from snapping back and wrapping around the first set of rolls. The drawing-out and drafting action of the rolls stretches the filaments until each is broken. The broken filaments pass between the second pair of rolls and are twisted into yarn as on a conventional spinning frame.

Yarns ranging from 2s to 40s cotton counts have been produced with high breaking strength and almost no elasticity.

The machine is still in the process of development and will not be mass-produced until the desired degree of operating perfection has been reached and until Medley Mfg. Co. has facilities available for production. Plans exist for the erection within six months of a Medley pilot plant for demonstration of the new direct-spinning frame and all other machines manufactured by the company.

Electronic Device Controls Card Feed

The Magnepoise A, an electronic device for correcting inaccuracies of present feed devices for woolen and worsted cards has been announced by Arthur G. Russell Co., Inc., Forestville, Conn.



The Magnepoise consists of two units; the smaller unit is the magnet assembly, and the larger unit is the control cabinet. (Arthur G. Russell)

The device determines the amount that each load in the weighing pan is over or under the desired weight as measured by deviation of the scale beam from the neutral position, and it applies a corresponding correction to the next load. This, it is claimed, has the effect of eliminating entirely the downward trend in delivered weights usually caused by the decreasing amount of stock in the supply hopper, and it smooths out the peaks between loads which are normally found in conventional machines.

The Magnepoise may be installed on any feed, regardless of age or condition, in a short time, it is reported. The correcting assembly is mounted on the side of the feed and connected to the scale beam. The control mechanism may be mounted either on the

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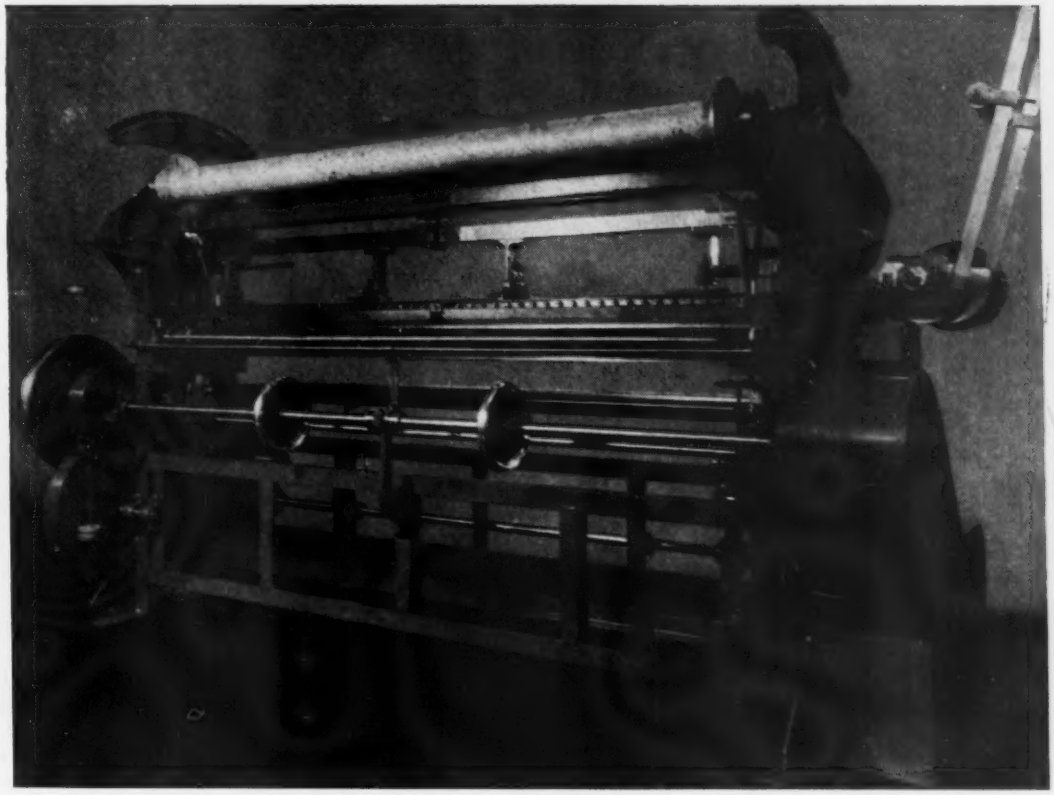
RASCHEL TYPE WARP KNITTER



What do you want to make?

Fabrics for elastic foundation garments, mosquito netting, hair nets, outerwear, underwear, curtain lace? With this machine you can knit a multitude of fabrics with any yarn from 50 denier, at speeds up to 250 courses per minute.

The Robaczynski Raschel Type Warp Knitter is a simple, durable steel fabricated machine, for hand or power operation. It is equipped with sand rollers, two needle beds, four guide bars and pattern drum wheel system. Six bars if necessary or less if so desired.

At the recent Knitting Arts Exhibition hundreds of visitors commented about its smooth running, never failing, high speed production. There are so many fabrics you can knit better and cheaper on this Raschel type warp knitter you owe it to yourself to investigate. Tell us your problems. There's no obligation. Early deliveries are assured.

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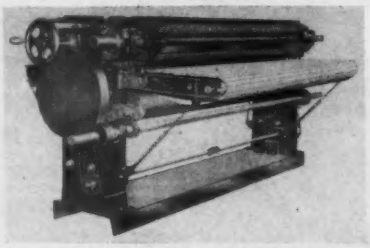
side of the feed or in any convenient remote location.

The device has been developed and tested under mill-operating conditions for over a year. It is most useful in mills where exact weight control is important.

Burr-Crusher Features Double Action



The Burrcoa burr-crusher is mounted at the delivery end of the wool card and powders burrs and other foreign matter in the web. (General Electronics)

A burr-crushing device for removing burrs and other impurities from wool as it leaves the card has been introduced by General Electronics Sales Co., 343 S. Dearborn St., Chicago 4, Ill.

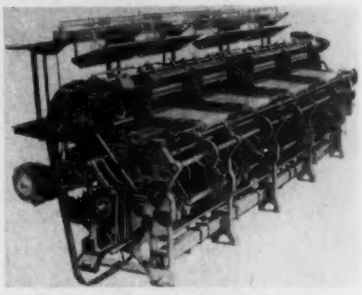
Known as the Burrcoa, the device passes the wool card web between two separate crusher rolls each revolving under high pressure in contact with a single large center roll mounted beneath. Foreign matter in the wool is crushed by the rolls to a fine powder which drops away from the fibers.

A bilateral control is featured which aligns the center roll at all times for crushing burrs on the entrance side of the first roll, and for exerting great pressure for additional crushing at the second or finishing roll.

Main bearings of the machine are dual expansion-type roller bearing assemblies packed with special grease for long life. All other moving parts have grease-packed ball bearings, and all bearings have Alemite fittings.

Drop-away aprons are hinged, and micrometric adjustment of roller pressure can be made from either side of the machine. Weights of the various models range from 1,800 to 2,500 lb.

Reiner Quadruplet Enters Scene



A four-section full-fashioned hosiery knitting machine known as the Twin Knitter, TK-2, has been announced by Robert Reiner, Inc., Weehawken, N. J. An expansion of the original two-section Twin Knitter, the machine permits a lower price per section and a reduction in required floor space. The machine is fully assembled and ready to operate, and features a semi-automatic welt-turner, fully automatic friction controls, individual motor drive, and up to eight yarn carriers. Gages presently available are 45, 51, 54, and 60; and either round or square heel can be knit

Useful Accessories for the Textile Mill

New "Varidrive" Motor

U. S. Electrical Motors, Inc., Milford, Conn., has introduced a new series of "Varidrive" variable-speed motors featuring small size per horsepower, longer belt life, more convenient positioning of the speed-adjusting handwheel, and provision for easier change of belts. A wide variety of assemblies is available, and speed variations of 2:1 to 7:1 are obtainable with up to 5-hp. output.

Penetrating Floor Sealer

Bull Dog "Tuf-Seal," a tough, varnish-type sealer designed to preserve and protect wood floors under heavy traffic conditions has just been made available by the Gillespie Varnish Co., Dey St., Jersey City 6, N. J. It is claimed that the new seal sinks deeply into subsurfaces of the wood, feeding them with a preservative that keeps the wood resilient, and prevents drying-out and splintering.

Level Control

A new level control (Type 10CB1X) for general application to chemical processing is available from Photoswitch, Inc., 77 Broadway, Cambridge 42, Mass. No floats or vacuum tubes are involved, and accuracy is independent of temperature and pressure. Employing two stainless-steel probe rods for contact with the liquid, the control combines a probe circuit and transformer to operate a direct-current relay. It can be supplied in either a pressed-steel or explosion-proof housing.

New Line of Hand Trucks

A new line of hand trucks, featuring construction which carries load-thrust to the frame instead of a welded joint, are now available from the Ace Co., 12-40 No. Orange St., Ocala, Fla., steel tubing, #16 ga., 1 in. O.D., is used in all trucks. Models vary in size and capacity, shape or crossbars, and type of wheels.

FOR HIGH HOURLY PRODUCTION

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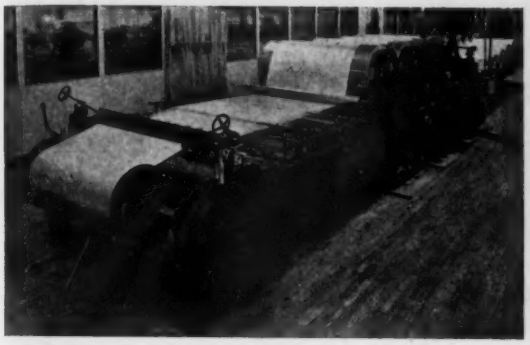

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Fluorine Gas Used For Wool Shrinkproofing

A process for proofing wool against felting shrinkage by the action of fluorine gas has been patented in England.

In this process, wool is placed in an airtight vessel and gaseous flourine is passed over the material. The amount of gas used varies with the degree of shrinkage-resistance desired, the quality of the wool, and the structure of the fabric or yarn. The hand of the wool is unaffected, and there is minimum damage to the fiber, it is claimed.

The patent has been assigned to Wolsey, Ltd., Leicester, England.

Impregnate Produces Permeable Coating

POLYAMINO-RESIN SOLUTION; Capskar, Inc., 500 E. 122nd St., New York 35, N. Y.

A new polyamino-resin solution for impregnating cotton yarn or thread has been announced by Capskar, Inc.

It is claimed that the application process is closely linked to the mercerization process, and that very little change in present equipment is required.

The impregnate is said to give a permeable, breathing, and moisture-absorbing coat which is unaffected by dry-cleaning, is highly resistant to strong laundry alkalies, and can be ironed at temperatures up to 425° F.

New One-Piece Size For Cottons and Spuns

HOUGHTO-SIZE CW, E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

Nothing need be added to a starch solution except Houghto-Size CW since the one-piece product contains softener, binder, and plasticizer, according to the manufacturer. The use of this material is recommended in the proportion of 8 lb. to 105 lb. of starch and 144 gal of water to make up 200 gal. of size. Its use results in a waxy coating that is reported not to stick on size cans.

Flameproofing Compound Will Not Effloresce

ANTOXOL; Eronel Industries, 5714 W. Pico Blvd., Los Angeles, Cal.

Antoxol, a new flameproofing compound for all fabrics recently announced by Eronel Industries, features permanent flameproofing which will not powder off and dust out. A balsomic resinous organic compound, it is easily applied and is resistant to repeated dry cleaning. A surface tension of below 27° will give even and rapid penetration. Antoxol is soluble in both water and alcohol. The manufacturer claims that treated fabrics also show an increase in tensile strength.

Important Acid Now in Commercial Production

MONOCHLORACETIC ACID; Hooker Electrochemical Co., Niagara Falls, N. Y.

Large-scale production of monochloracetic acid has evolved from pilot plant operation at Hooker Electrochemical Co.; but the product is not yet generally available.

Mildewproofing Agent Is Colorless and Odorless

NUODEX 100 W. D.; Nuodex Products Co., Elizabeth, N. J.

Colorless and odorless, Nuodex 100 W. D. is available in forms soluble in water, solvent, or oil. It is reported that a 0.1% loading enables a fabric to pass the standard Chaetomium globosum test and 0.5% keeps tensile strength loss at less than 10% after two weeks' soil burial.

It is claimed to be non-irritating and may be used on wearing apparel, even on delicate fabrics.

Plastic Adhesive Bonds Vinyl Materials

VINYL-LASTIC; Permaplastic Products, 24035 Mound Rd., Centerline, Mich.

A new adhesive designed specifically for bonding vinyl sheet stock and said to produce excellent adhesion of vinyl to itself, metal, wood, leather, and other materials has been announced by Permaplastic Products. The bond is not deteriorated by vinyl plasticizers, it is stated; no heat or pressure is required for bonding.

THE SUCCESSFUL MILL MAN IS MOISTURE CONSCIOUS

In Textile SPINNING, WINDING, DOUBLING and TWISTING the lubrication imparted to the sliver, roving and finished yarn by the optimum moisture content, eliminates Breakages, Imperfections and Roughage.

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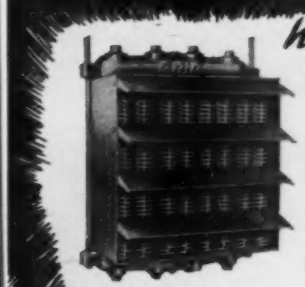

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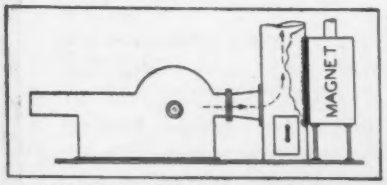
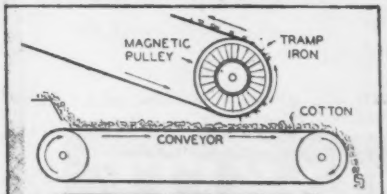


MEMCO Vertical Plate magnet installation (above)—The corrugated bronze surface covering the magnet prevents friction sparks when iron strikes the plate. The accumulated iron is easily removed.

MEMCO Magnetic Pulley Separator (below)—This powerful magnetic pulley installed over the conveyor belt effectively removes all iron passing beneath it on the conveyor. Many other types of installation are employed, depending on the particular requirements.



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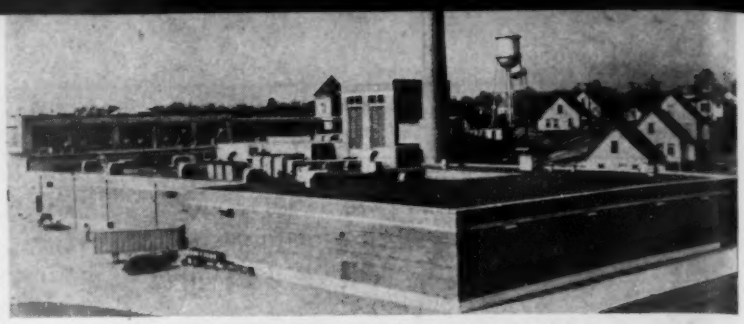


A modern finishing plant has been added to the Excelsior Mills, Union S. C.

Three New Plants for WOOLEN *and* WORSTED

***HIGHLIGHTS:** Spinning, weaving, and finishing plants erected by Deering-Milliken — Functionally designed — Oil heated — Benefits for personnel featured.*

THREE NEW ADDITIONS to the Deering-Milliken group of textile mills have been erected in South Carolina.

The new worsted spinning mill at McCormick is 580 ft. long by 200 ft. wide, and will cost over a million dollars when completed. It has 20,000 spindles and employs about 300.

The Johnston Weaving Mill at Johnston, S. C., will, it is reported, have 114 broad worsted looms and 300 employees.

Both plants are functionally designed, have new equipment, tile walls, and such modern features as a recreation room, a cafeteria, and music "piped" to all departments. A large bubbling fountain in front of each mill serves the dual purpose of making the grounds attractive and aerating and cooling the water used in the air-conditioning system.

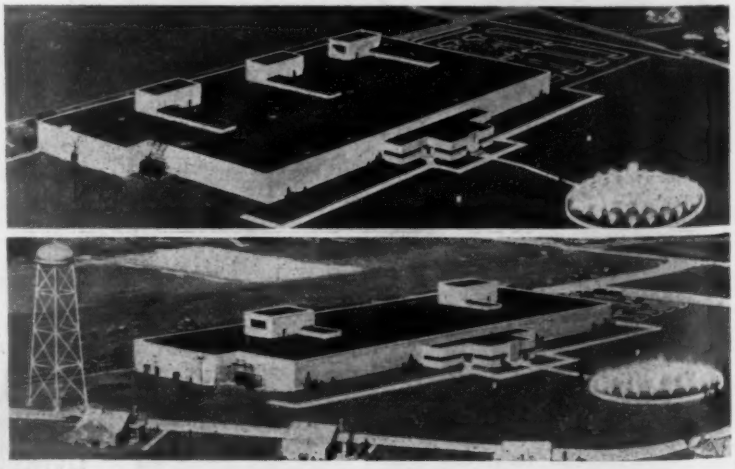
The office area in both plants has an individual air-conditioning unit.

Because of the uncertainties of coal supply, heating at both plants is oil-fired, and oil-storage tanks are large enough for a 3-mo. supply. Special parking areas, with trees to shade cars, have been provided at both plants.

A special feature of both the McCormick and Johnston plants is provision of brick-veneer houses for supervisors. These houses have completely equipped kitchens, heating, and attic fans. To date, 14 such houses have been erected at McCormick, and 18 at Johnston.

A modern finishing plant has been added to the present Excelsior Mills at Union, S. C. This mill produces woolen fabrics, and has 2,640 spindles, 64 looms, and about 332 employees.

All three plants were constructed by the Daniel Construction Co., Greenville, S. C.



The new McCormick spinning mill (top), and the Johnston weaving mill (bottom). Fountains improve appearance and serve air-conditioning system. Superstructures on roofs are air-conditioning units. Parking area is provided at right end of each plant, and houses built for supervisors are visible in both views.

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Contents include: Classification, and Chemistry of the Gums; Gums from the Acacia Tree and Its Varieties; India Gums—Ghatti, Karaya and Others; Gums from the Astragalus Plant; Miscellaneous Gums; Hydrophilic Colloids from Seaweeds; The Hemicelluloses: Locust Bean Gum, Seed Extracts, and Iceland Moss; The Modified Celluloses; the Modified Starches; The Water-Dispersible Proteins; Gums in Cosmetics and Pharmacy; Gums in Paints and Coating Compositions; Gums in Textile Operations; Miscellaneous Applications; Specifications, Identification, and Testing; Native Designations of the Gums.

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Books of Interest

Phenoplasts Up to Date

PHENOPLASTS, THEIR STRUCTURE, PROPERTIES, AND CHEMICAL TECHNOLOGY (Vol. VII in series on "High Polymers"), by T. S. Carswell; Interscience Publishers, Inc., New York; 268 pages, $5.50.

The work of the last few years on phenoplasts has not previously been presented in one volume. In this new volume, the author's prime purpose has been to correlate the structure of the phenoplasts with their mechanical and chemical properties. Although used principally for molding, laminating, protective coatings, and adhesives, many of the phenoplasts have textile interest. They include Bakelite, Durez, Durite, Textolite, Indur, Makalot, and Resinox. The book under review is a valuable compendium of recent research; it may be the basis for further research and achievements in the field of phenoplasts, which however, will require development of new chemical techniques and new physical tools, according to the author.

French Rayon Industry

LES TEXTILES ARTIFICIELS ET SYNTHETIQUES EN FRANCE, by Bernard Pierre Societe Privee D'Imprimerie et D'Edition, 3 Ave Sully-Prudhomme, Paris VII, France; 274 pages, 240 francs.

This is a complete study of the history and present status of the French rayon and synthetics industry. It lists companies and processes, and gives French production figures from 1896 to 1945. Related data on prices, foreign trade, and production in other countries appears unusually complete. There are numerous charts and maps.

A Yearbook on the Indian Cotton-Textile Industry

THE COTTON TEXTILE DIGEST; Hindustan Textile Publications, Ltd., Calcutta, India; 188 pages, 5 rupees (approx. $1.51).

This yearbook for 1946 covers current achievements and trends in cotton-textile technology from important world centers. It summarizes activities in India in such fields as textile machinery manufacture, fabric designing, labor legislation, the hand-loom industry, and cotton cultivation. It also gives the report of Postwar Planning Committee; a summary of Stones-Baddeley report on structure, layout, lighting, and humidification of mills; Indian government control orders on yarn and cloth; a list of cotton mills in India; and a group of statistical tables on India's equipment, production, etc.

German Reports Offered in Book Form

TEXTILE REPORTS OF BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE, by various authors; Mapleton House, 5415 17th Ave., Brooklyn, N. Y.

This publisher is offering a group of volumes based on the reports of government-authorized teams which have investigated the German textile industry. These reports came largely from the BIOS, but they are in some cases supplemented with material from American sources. The format is offset reproduction of the original typewritten text and illustrations. The reports should be of general interest to textile technicians in the fields indicated by the titles. The books now available include "Textile Machinery" by H. Charlesworth and associates, 152 pages, $8.00 "The German Cotton, Rayon, and Silk Industries" by D. W. Hill and associates, 156 pages, $5.00; "Textile Auxiliary Products" (Mersol and Hostapon processes), by W. Baird, 42 pages, $3.00; "German Rayon and Staple Fiber Industry" by A. G. Williams, 80 pages, $4.00. Other titles are in prospect.

Other Publications

CATALOG OF AMERICAN STANDARDS; American Standards Association, 70 E. 45th St., New York.

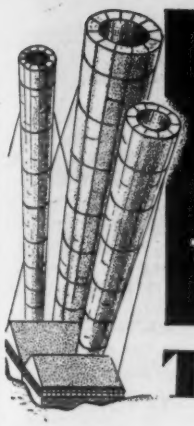
HOME ECONOMICS, by K. T. Healey; Bellman Publishing Co., Boston, Mass.; 75¢.

THEORY AND PRACTICE OF FILTRATION, by G. D. Dickey and C. L. Bryden; Reinhold Publishing Co., 330 West 42nd St., New York; $6.00.

ALCOHOLISM IS A SICKNESS, by H. Yohraes; Public Affairs Committee, Inc., 30 Rockefeller Plaza, New York, N. Y.; 10¢.

BETTER BUYMANSHIP—USE AND CARE OF FABRICS, edited by L. A. Hener; Household Finance Corp., 919 No. Michigan Ave., Chicago; 5¢.

EXTINGUISHING AND ALARM EQUIPMENT; National Fire Protection Association, 60 Batterymarch St., Boston, Mass.; $1.50.



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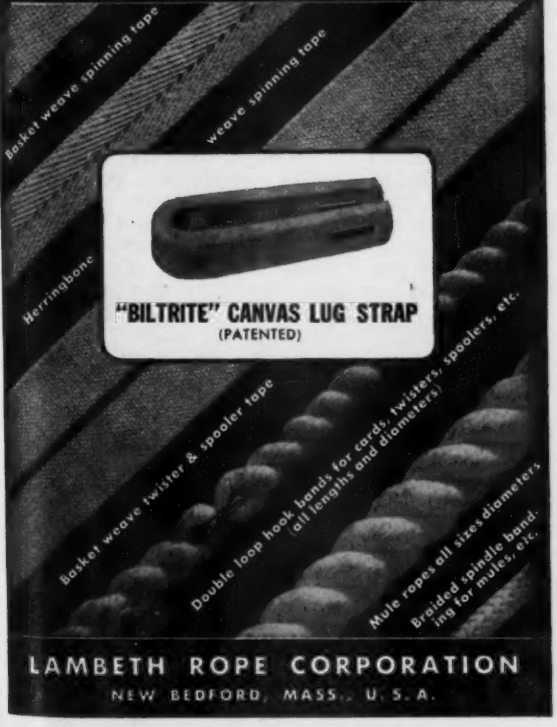
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News of the month

COTTON SUPPLY MAY BE "TENSE." The cotton supply-demand situation in the United States is in best balance in many years according to Dept. of Agriculture officials, but they expect that on the world front a "tense supply situation" will develop if world consumption continues to exceed cotton production during the 1947-48 season. World stocks of cotton on Aug. 1, 1947, are expected to total only 17,500,000 to 18,000,000 bales —a reduction of 10,000,000 bales during the last 2 yr. World consumption has been estimated at about 27,500,000 bales during the current season, whereas the 1946-47 world crop was less than 21,500,000. Prewar, the Aug. 1 stocks averaged 16,500,000 bales. In the United States, the current supply is considered adequate, although smallest since 1929; and the 1947 crop is expected at least to equal domestic consumption and exports in 1947-48. Trouble will come mainly if the growing 1947 crop falls below 11,000,000 bales. Officials believe that in this event it would be difficult to find enough cotton to export 2,500,000 to 3,000,000 bales in 1947-48, unless domestic mill consumption drops below 8,500,000 bales during the 12 months beginning Aug. 1, 1947. Cotton-mill consumption since last August has totaled 10,250,000 bales compared to the previous year's 9,200,000 bales. Officials now believe, however, that the domestic supply-demand gap in cotton goods has been narrowed to the point where mill consumption will total only 8,500,000 bales next season.

SEES STRONG WOOL. The unprecedented demand by this country for foreign wool, due to greatly decreased wool production in U. S. and increased wool consumption, is proving to be the major factor in the present high world prices for fine wools, according to the American Wool Council. Prices for fine combing wools, the types most in demand in this country, the council says, show an average advance of 51% over December, 1946, when ownership of British Dominion wools, representing two-thirds of the world's output of apparel wools, passed from the Empire purchase plan to the joint Dominion buying and selling program. No softening of prices is to be expected, the council declares. The first Australian auctions this season will open in Sydney, Sept. 1, and Adelaide, Sept. 2.

CONFERENCE URGES COOPERATION WITH WORKERS. American industrial management was challenged to take immediate initiative under the Taft-Hartley labor law to sell free enterprise to its employees at the recent Southern Conference on Human Relations in Industry, at Blue Ridge, N. C. Management was urged to make a close study of its operations for improving production, to extend its cooperation with workers, to give greater recognition for individual effort, and to abandon such paternalism as practiced by government and by labor unions which has

Textile Calendar

Spinner-Breeder Cotton Conference (Sponsored by Delta Council, Stoneville, Miss.), North Carolina State College of Textiles, Raleigh, N. C., Aug. 28 to 30, 1947.

Felt Association, fall meeting, Shawnee-on-Delaware, Pa., Sept. 19 to 21, 1947.

AATCC, Philadelphia Section meetings, Sept. 26 and Nov. 8, 1947; Jan. 16, Feb. 27, Apr. 9, and May 21, 1948 (Bellevue-Stratford Hotel, Philadelphia).

AATCC, Northern New England Section meetings, Sept. 26 and Nov. 21, 1947.

Made-in-Georgia Exposition, Atlanta, Ga., Oct. 8 to 12, 1947.

National Association of Cotton Manufacturers, 93rd Annual Meeting, Sheraton-Biltmore Hotel, Providence, R. I., Oct. 9 and 10, 1947.

Committee D-13, ASTM, Philadelphia, Oct. 17, 1947.

American Association of Textile Chemists & Colorists, annual convention, Congress Hotel, Chicago, Ill., Oct. 23 to 25, 1947.

Lighting Exposition & Conference, Stevens Hotel, Chicago, Ill., Nov. 3 to 7, 1947.

Textile Research Institute, annual meeting, Waldorf-Astoria Hotel, New York, Nov. 13 and 14, 1947; Laboratories Building, Princeton, N. J., Nov. 15, 1947.

National Cotton Council, tenth annual meeting, Biltmore Hotel, Atlanta, Ga., Jan. 21 to 23, 1948.

International Heating & Ventilating Exposition, Grand Central Palace, New York, Feb. 2 to 6, 1948.

Hosiery Industry Conference and Annual Meeting of NAHM, Claridge Hotel, Atlantic City, N. J., April 19 and 20, 1948.

International Exposition of Textile Machinery, Equipment & Supplies, 71st Regiment Armory, 34th St. and Park Ave., New York, May 3 to 7, 1947.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 4 to 9, 1948.

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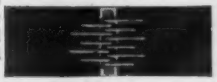

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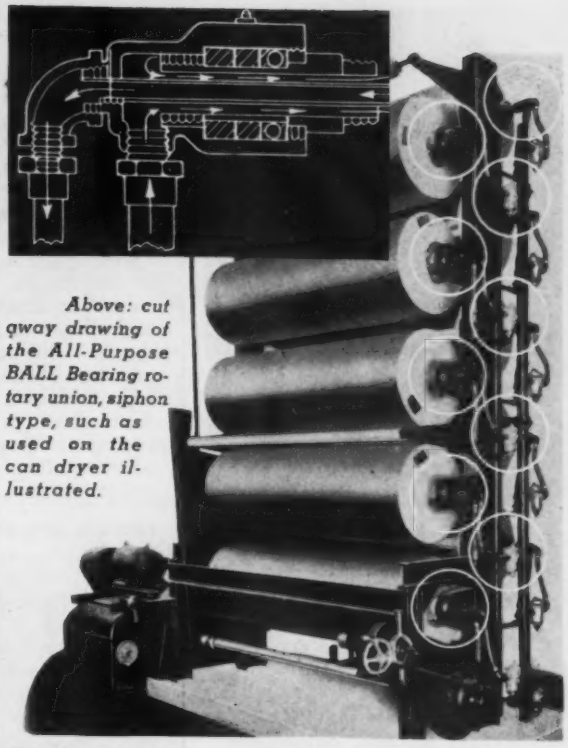

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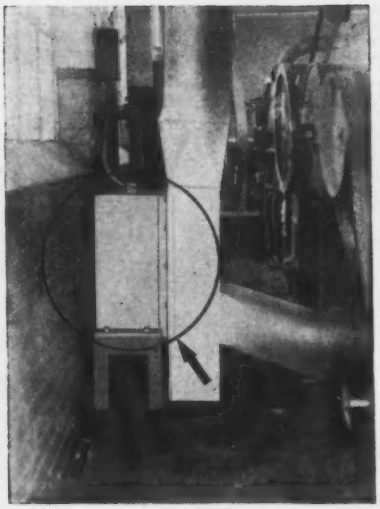

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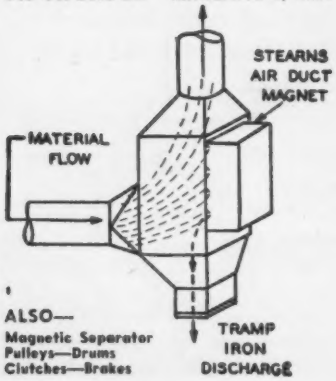

ALSO—
Magnetic Separator Pulleys—Drums Clutches—Brakes

placed the individual in economic slavery. Speakers at this 28th annual session called on industry to revitalize its procedures to regenerate confidence in private enterprise. T. O. Moore, vice-president of P. H. Hanes Knitting Co., Winston-Salem, N. C., pointed out that the new labor law is as much a step toward a bill of rights for the laboring man as it is the granting to industry equal rights with labor unions in dealing with employees. He urged the use of the new law to bring about a mutual understanding of shop and other problems. He urged that industry should not allow its foremen to become "forgotten men," as they are the most important in management group.

REDMAN SHRINKER AT WORK. The Redman-process shrinking machine was delivered by Proctor & Schwartz, Inc., of Philadelphia, to the Spring City Bleach & Dye Works, Spring City, Pa., in July. Trial runs are now in progress and the trustees of the Redman Trust are planning to hold open house for the contributors to that fund at Spring City in the latter part of August so that they may see the machine in operation and observe its results.

COTTON - FARM MECHANIZATION. A belt-wide cotton mechanization conference was held at the Delta Branch Experiment Station, Stoneville, Miss., Aug. 18 and 19, drawing together for the first time representatives of every cotton-growing area in the Cotton Belt and a full cross-section of the farm equipment industry. The meeting was sponsored by the National Cotton Council, with the cooperation of the Farm Equipment Institute and the U. S. Department of Agriculture. Local hosts were the Delta Branch Experiment Station and the Delta Council.

TELLS COTTON'S SUPERIORITY. Cotton's basic superiority in 18 major fiber and fabric characteristics were described by Dr. Ide P. Trotter, College Station, Texas, to cotton scientists attending the annual Cotton Research Congress at Dallas, July 17. The program was staged by the National Cotton Council, under George G. Chance, chairman of the council's Texas unit.

ANOTHER SILK PROJECT. Jule W. Appel, of Cincinnati, Ohio, is launching a sericulture industry in the vicinity of Samsula, Fla. A winter visitor at Deland for several years, Mr. Appel has planted 1,000 mulberry trees and expects processing operations next spring.

NEW NYLON UNIT STARTS. The first unit of the new nylon-yarn producing facilities, now being installed by E. I. du Pont de Nemours & Co. at its Martinsville, Va., plant, began operation in the middle of July. This unit will be functioning on a limited basis for the next several weeks until it can be thoroughly tested and adjusted. Other units are to be brought in gradually, and the company is hopeful that full operation will be achieved by the end of October.

ASBESTOS FOR TOWELS. A new dish-towel said to wipe dishes faster and dryer has been introduced. This towel, containing 20% asbestos and known as Carosel, is produced by the textile division of United States Rubber Co. It is made in a range of six colors and made its debut June 30 at the retail store of Abraham & Straus, Brooklyn, N. Y.

GEORGIA EXPOSITION. The first annual Made-in-Georgia Exposition will be held in the Atlanta Municipal Auditorium, Oct. 8 to 12, 1947, and will

NARROW FABRICS DIV. OF C.T.I.—John E. Fite, of Krout & Fite Mfg. Co., Philadelphia (center) was reelected chairman of the Narrow Fabrics Div. of the Cotton-Textile Institute at the annual meeting and outing at Atlantic City, July 17 and 18. Lewis F. Sawyer was reelected secretary. Shown at the dinner concluding the event with Mr. Fite are (left to right above): W. T. Carson, of W. T. Carson Co., P. B. Halstead, of Cotton-Textile Institute, Mr. Fite; H. R. LeNoir, of Krout & Fite, Ed Mitchie, of Alva Tape Co.

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Spun Rayon and Blends

UNITED YARN PRODUCTS COMPANY

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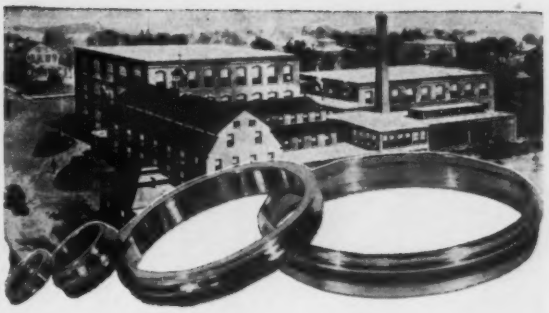

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198 East 25th Street
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feature products processed and manufactured in that state. The show will include textiles, ceramics, chemicals, foods, iron and steel products, and equipment and mill supplies. Michael F. Wiedl, 267 East Paces Ferry Road, Atlanta, is the director.

NOW FIBERLESS COTTON! While some agronomists are sitting up nights to get longer, stronger, and more plentiful cotton fibers in each boll on the plant, there is another side to the picture. The *Farm Journal* reports that the cotton-seed-oil industry and livestock feeders are behind a drive to achieve lintless cotton. The present best achievement is said to be a cotton boll with 8 to 10% lint—just enough to hold the seed in the boll when the boll opens. This is practically cotton-less cotton!

OLD STRIKE ENDED. What is said to be the oldest strike in the South ended July 16 when the CIO textile union charged that the Taft-Hartley labor act "stacks the cards against the union." Members of the TWUA, who struck against the Gaffney Mfg. Co. in September, 1945, were notified by the company that only presently employed workers were allowed within the plant; and that if and when jobs are available, an applicant will be selected on his or her qualifications, without regard to labor affiliation.

TEXTILE LUBRICATION RESEARCH. The Texas Co. has made $1,500 available to the Georgia School of Technology for the purpose of awarding a Texas Co. fellowship in textile lubrication. The Texas Co. has made no stipulation regarding the use of the award other than a request that it be used to promote research in textile lubrication. An investigation reveals that the most fruitful topic for research is likely to be a study of spindle power relations with varying package weights, lubricants, and speeds. It is expected that the recipient will register for a master's degree. Georgia Tech desires to hear from qualified candidates.

N. E. FUND MAKES GOAL. George T. Metcalf, executive secretary of the New England Textile Foundation, Providence, R. I., reports that the $250,000 goal for the 1946-47 campaign has been passed; 301 donors contributed a total of $251,105, or an average of $834 each. This brings to a successful close the first of four annual campaigns to raise $250,000 per year, or a total of $1,000,000. The money will be used by the N.E.T.F. to assist four New England textile schools and to grant scholarships to deserving students who wish to attend them.

ENGLAND EYES U. S. MARKET. National Wool Textile Corp. of England is sending a small delegation to United States in September. Object is expansion of U. S. market for British worsteds and hosiery, and correction of the impression that, because of domestic ceiling prices, the British weavers cannot purchase high-grade raw wool for export goods.

COTTON COUNCIL TO MEET. The National Cotton Council will hold its tenth annual meeting at the Biltmore Hotel, Atlanta, Ga., Jan. 21 to 23, 1948. At this meeting the council will lay plans for the 1948 industry program of sales promotion, research, production efficiency, and foreign trade.

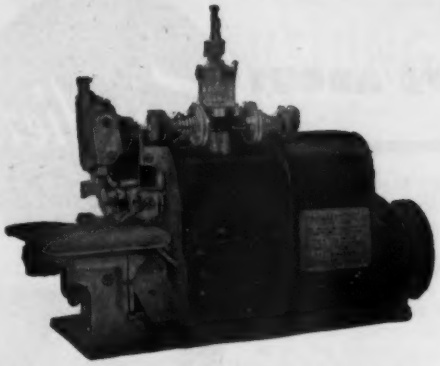
INTERRUPTS ARGENTINE TRADE. The Buenos Aires Branch of the First National Bank of Boston cabled its home office on July 8: "Granting of exchange permits textile machinery imports temporarily suspended."

DURENE OFFICE MOVES. Durene Association of America has moved its offices to the Empire State Building, New York, Room 803, where enlarged quarters will facilitate handling of the quality-control. The organization expects that more than 180,000,000 "Made-of-Durene-yarn" labels will be used this year.

YARNS TO MATCH FABRICS. A new field of color-coordination is indicated by the plan developed by Julius Forstmann Corp. and James Lees & Sons Co. Fourteen Fortsmann colors have been "dyed to match" in Columbia and Minerva hand-knitting yarns made by Lees. The hand-knitter will now be able to knit accessories for her woolen suit, skirt, or coat with exact matching colors.

NAME CHANGE. Synthetic Yarns, Inc, Woonsocket, R. I., has changed its name to Woonsocket Rayon, Inc. There is, however, no change relating to ownership, management, or financial status.

A FIRE LABORATORY. A laboratory devoted to the advancement of fire prevention and fire protection has been established by the Factory Insurance Association at Hartford, Conn. Training, demonstration, test, and display of equipment are all provided for. The primary purpose is the training of FIA field representatives to aid in their service to policyholders.



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MERROW HIGH SPEED

OVEREDGING, OVERSEAMING AND HEMMING MACHINES

For Use on Knitted and Woven Wear of All Kinds

Quality Results—High Production

Convenient Handling

Minimum Time-Out for Adjustment

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Acme Products

for seamless hosiery knitting

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Up-To-Date Machines
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ACME KNITTING MACHINE
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KNITTING MACHINES

meet the needs for Speed—
for Quality and Low Cost

CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is versatility . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

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KNITTING MACHINERY

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YES, FOR COTTON CLOTH or cotton mixed cloth Exsize is the dependable-economical finisher. For this concentrate of natural enzymes has not a trace of acids... harsh alkalis or destructive chemicals.

In other words, Exsize does right by your cloth, leaving it soft, with elastic feel —a good "hand."

And, what's just as important Exsize does right by your budget. For scientific tests show that this famous Pabst product works efficiently, dilutes quickly, and actually desizes hundreds of yards of cloth for only a few pennies.

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PABST BREWING

PABST SALES COMPANY

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Warehouses at Jersey City, and Textile Warehouse Company, Greenville, S. C.

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NEWS ABOUT *Suppliers*

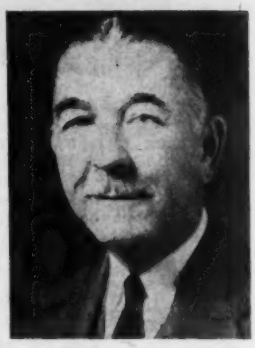
Whitin Machine Works, Whitinsville, Mass., has purchased the plant and equipment of Fay & Scott, Inc., Dexter, Me., manufacturers of machine tools for 66 yr. This plant will continue the manufacture of carding machines and drawing frames which it has been making for Whitin for the last 2 yr. The company has already retired as a maker of machine tools, but will form a new corporation, Fay-Scott Corp., to continue in business as a distributor of oil.

H. Brinton Co., Philadelphia, Pa., has elected H. W. Anderson as vice president and director. Mr. Anderson has disposed of his interests in Fidelity Machine Co., Philadelphia, of which he was president and general manager for the last 22 yr. The affiliation of "Andy" Anderson with the Brinton Co. continues his long association with the knitting machine industry. He had retired as Fidelity's president several months ago, but had continued as consultant on development and research.

Westinghouse Electric Corp., Pittsburgh, Pa., has appointed C. P. Walker to head the textile-industry activities for the General Mills Section of its Industrial Sales Dept. Prior to his transfer, he was in the corporation's Atlanta office, where he has worked with the textile industry in South Carolina and Georgia since 1939.

Southern Shuttles Div., Steel Heddle Mfg. Co., Greenville, S. C., has acquired another building across the street from the present main plant in Greenville. It is a two-story concrete structure, equipped with a sprinkler system. It will be used for storage, while the former storage areas in the main plant will be used for increased production of the new Ste-Hide and fiber-covered shuttles.

Pneumafil Corp., Charlotte, N. C., has appointed Tecnotex S. A., Mexico City, as its representative for Mexico. Eduardo Coghlin is technical director of Tecnotex. Fernando Casablancas, associated with the development of the Casablancas long-draft system, is actively connected with Tecnotex and will direct the introduction of Pneumafil equipment in Mexico. In England, the Casablancas High Draft Co., Ltd., of Stalford, is working with the company that manufactures the English Pneumafil system.



W. I. GALLIHER, executive sales manager of the Columbia Chemical Div., Pittsburgh Plate Glass Co., has also been made executive sales manager of Southern Alkali Corp., a Pittsburgh subsidiary, in order to correlate the sales activities of the two units. Mr. Galliher will maintain his headquarters in Pittsburgh, Pa.

Marquette Metal Products Co., Cleveland, manufacturer of roller-bearing spindles for cotton, rayon and worsted, has added William P. Russell, Box 778, Atlanta, as sales representative in Alabama and Georgia. M. O. Thompson, 80 Boyslton St., Boston, is handling the line in New England. Byrd Miller, with office in Woodside Bldg., Greenville, will continue to represent Marquette in that area.

International Exposition of Textile Machinery, Equipment & Supplies, previously scheduled for the Kingsbridge Armory in New York the last week of April 1948, has been switched to the 71st Regiment Armory, 34th St. and Park Ave., and the date for the exposition has been pushed ahead one week to May 3 to 7, 1948. Arthur Tarshis, managing di-

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Kastrinsky designs and builds a complete line of a size and type to meet your requirements. These machines are easy to operate with unskilled labor and maintenance costs are low.

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rector of the exposition, said that he had acted on the advice of a great many companies that had regarded the former location as being "out of the way" and not so accessible for exhibitors, their staffs, and visitors to the show. The new location is central and readily accessible from leading hotels and principal transportation systems.

David Gordon & Co., Inc., New York, has elected David Gordon, previously with M. W. Kellogg Co. and the Interchemical Corp., to the presidency of the company. The company is handling domestic and foreign business in mechanical, chemical, and industrial engineering. Office is at 29 Broadway.

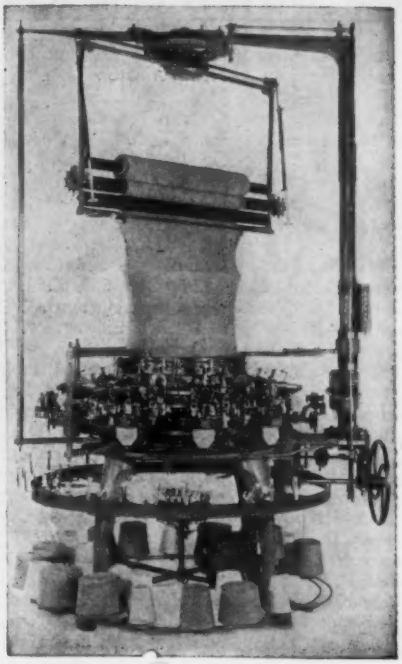
E. I. du Pont de Nemours & Co., Wilmington, Del.—Dr. Ernest B. Benger, an authority on synthetic fibers and films and manager of the Rayon Technical Div., retired from the Du Pont company on June 25, the 30th anniversary of his employment with the company as a research chemist. He will be succeeded by Andrew E. Buchanan, Jr., assistant manager of the Rayon Technical Div., since 1944. Mr. Buchanan was at one time assistant editor of *Chemical Engineering*, a McGraw-Hill publication. G. P. Hoff has been appointed assistant manager of the technical division, succeeding A. E. Buchanan, Jr. W. W. Heckert has been appointed director of acetate research to succeed Dr. Hoff. Hood Worthington is now director of nylon research to succeed Mr. Heckert; and V. R. Hardy, research manager in nylon research, has been appointed assistant director of the section, succeeding Mr. Worthington. J. Warren Kinsman, general manager of the company's Fabrics & Finishes Dept., and a member of the board, has been made a vice president and was designated as a member of the executive committee to succeed Willis F. Harrington, who will continue to serve as member of the board but who has retired as vice president and member of executive committee. He had been with Du Pont since 1904. James R. Buckley has been named manager of the Fabrics Div., to fill the vacancy caused by the death of M. J. Callahan. Carl I. Taber has been named manager of the newly formed fabric development section of the Nylon Div. He has been with Du Pont since 1927, largely in the Acetate Div.

ALBERT LEITSTEIN has been appointed general manager of the featured fabric finishes department of Warwick Chemical Co., division of Sun Chemical Corp., New York. Harold Callen has been named sales manager of the department which handles Impregnole, Norane, and Durlana.

Monsanto Chemical Co. Textile Chemical Department, Boston, Mass., has appointed William F. Hill as mid-west sales representative with headquarters at the company's Chicago office. Mr. Hill succeeds Robert Gow, transferred to Charlotte to handle accounts in South Carolina, western North Carolina and eastern Georgia. In the Textile Chemicals Dept., Walter Kulow will take over the New York City area which includes upper Pennsylvania and upper New Jersey. Charles F. Bishop, who has been handling that territory, is transferred to the Charlotte office to cover South Carolina, western North Carolina, and eastern Georgia. Chester L. Jones, Jr., has been named sales manager of Monsanto's Protective Coatings Dept. He will have headquarters at the Merrimac Div., Boston, Mass.

Jacob Schaad, Paterson, N. J., formerly with United Reed & Harness Co. for the last 22 yr., is now looking after the interest of C. A. Lausberg & Sons, Inc., Haledon, N. J.

Interchemical Corp., New York, has created the Flexible Plastic Coatings Dept. in its Finishes Div. to combine the related activities and technical staff of its Finishes Div. and Roxalin Flexible Finishes. The new department will have as sales manager Chester M. Rob-



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High Production
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The Tompkins Model S-1 is the finest in high speed spring needle knitting machines. Set up at factory for any class of work desired. Feeds and gages may be quickly changed to produce a wide range of cloth —from rugged overcoat material to fine underwear fabrics. Furnishing wheels, visual-signal electric stop motion and cylinder lighting insure perfect cloth in large volume. Interchangeable cylinders—16" to 35" and gages from 5 to 50 provide maximum flexibility.

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CONVERTS FABRIC INTO NARROW STRIP IN ROLLS

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The IDEAL BASKET for

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Manufacturers **: POUGHKEEPSIE, N. Y.**

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For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines: Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY

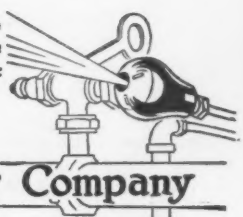
Humidifiers or Humidification

Where desperate need for moisture exists, anything labeled "humidifier" can hardly fail to help. Thus "humidifiers" sometimes get more credit than they deserve.

Mysterious looking objects delivering moisture and humidification have little in common. Humidification reckons with many things; the changing demand of the seasons, of each day, or hour, or minute. It includes peculiarities of plant, processes and product. Finally, it aims at more and better production.

Yes, "humidifiers" may help. Genuine humidification produces astounding results.

No piping changes. The self-cleaning Turbomatic interchangeable with earlier and other models.



Parks-Cramer Company

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

bins, formerly vice president of the Textile Colors Div. of Interchemical; and as service manager, Michael A. Dorian, previously manager of Roxalin's Textile Finishes Dept. Sales headquarters will be at the new Interchem Finishes location, 57 State St., Newark, N. J.

Nuodex Products Co., Elizabeth, N. J., has promoted A. C. Mueller and J. W. Van Tuin to the newly created positions of sales managers of the eastern and western divisions, respectively. The two divisions are responsible for the activities of the following 29 Nuodex sales agency offices located throughout the country: *Eastern Division*—Baker & Collinson, Detroit; Brice H. Boyet, Louisville; Homer D. Butts, Pittsburgh; Commercial Chemicals, Inc., Buffalo; F. V. Gunn & Co., Inc., Richmond; W. B. Leslie Co., Cleveland; D. H. Litter Co., Inc., New York, Boston, and Philadelphia; B. H. Roettker Co., Cincinnati. *Western Division*—Abner Hood Chemical Co., Kansas City; R. T. Hopkins, Atlanta; Indiana Naval Stores, Indianapolis; Mount & Alsop, Inc., Portland, Ore.; J. E. Niehaus & Co., St. Louis; Post Brokerage Co., Nashville; Dorothy B. Smith, Seattle; and Thompson-Hayward Chemical Co., Dallas, Davenport, Denver, Des Moines, Houston, Memphis, Minneapolis, New Orleans, Oklahoma City, Omaha, San Antonio, Tulsa, and Wichita.

S. C. Johnson & Son, Inc., Racine, Wis., has promoted two members of its sales department. Robert F. Gardner, former Chicago-area sales manager, has been named merchandiser of the company's maintenance wax products with headquarters in Racine. Robert D. Ledlie, who has been with Johnson since 1939, has been transferred to the textile Drax department in the New York area.

G. H. Tennant Co., Minneapolis, Minn., has appointed Orville C. Hognander, vice president, to direct the over-all marketing activities of the company. He was previously advertising and sales manager. He is succeeded as advertising manager by George D. Billings, formerly copy chief in a Minneapolis advertising agency.

Quaker Chemical Products Corp., Conshohocken, Pa., has added Louis C. Clelland, Jr., to the staff of its Technical Service Div. His duties will consist of analyzing field-service problems and presenting them to the Research & Control Laboratories.

C. J. Tagliabue Mfg. Co., Brooklyn, N. Y., a subsidiary of Portable Products Corp., has removed its Chicago district sales offices from 608 South Dearborn St., to Room 1120, Merchandise Mart, Chicago 54, Ill.

Stein, Hall & Co., Inc., New York, will be exclusive distributors for Acryvin products in the textile, paper, and adhesives fields. The Acryvin products which include plastic coatings, impregnants, and adhesives, are manufactured by Acryvin Corp. of America, Astoria, N. Y.

Owens-Corning Fiberglas Corp., Toledo, Ohio, has appointed P. J. Fluge as manager of its yarns division. M. G. Jensen has been named manager of the storage battery sales section of the equipment and appliance division. F. L. Myers has been appointed manager of the corrosion products sales section of the industrial division. R. E. Brown has been appointed manager of the home insulation sales section of the

CARBOMATIC CORP. has removed its company headquarters from 117 West 63rd St., New York, to its own building (pictured above) at 24-81 47th St., Long Island City. A branch sales office will be maintained in Manhattan.

STANDARD

Silicates of Soda

ALKALI

Produced at
Five Conveniently Located Plants:

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STANDARD SILICATE DIVISION
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NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John:
Penick and Ford's Starches and Gums for sizing Corduroy warps insure dependable weaving and maximum cutting efficiency.
Let's try the type they recommend. Jim

ROME SOAP MFG. CO.

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Textile, Laundry
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Special Soaps
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WRITE US FOR SAMPLES AND QUOTATIONS

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RARITAN, N. J.

MACHINERY
TENTERING
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Now Being Delivered!

The NEW ZEPHYR "HYDRAXTOR"

the Extractor of the Future

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THE WETTER YOUR PLANT EQUIPMENT AND WALLS THE MORE YOU NEED
DAMP-TEX ENAMEL
PRESERVES AND BEAUTIFIES DINGY WET WALLS AND EQUIPMENT
Proved Fungus Resistant by FUNGUS TEST
Dark, dingy walls cut down efficiency Rusty, neglected equipment increases depreciation costs. Rot, bacteria and fungus play havoc generally. The Damp-Tex system was created for the plant where the presence of moisture, heat and other unusual conditions hinders proper surface maintenance. Over 4,000 plants have discovered its superiorities. Write for our trial offer.
Proved Lactic Acid Resistant by ACID TEST
FUNGUS
RUST
DINGE
KNOCKS OUT THE ENEMIES OF PLANT MAINTENANCE
STEELCOTE MFG. CO. • ST. LOUIS, MO.
Canadian Manufacturer—Standard Paint & Varnish Co., Windsor, Canada

NEWS ABOUT SUPPLIERS

building materials division. M. W. Butler is now manager of the Fiberglas New York office. W. R. Thomas succeeds him as manager of the Philadelphia Fiberglas office. A. E. Kincaid has been appointed manager of the company's Pittsburgh office. A. W. Brown has been named electrical insulation specialist in the New York Fiberglas office.

General Electric Co., Bridgeport, Conn., has appointed W. R. Becker as product promotion manager for its wiring device sales. He joined GE in 1937. In his new position, he will be responsible for the sales promotion of standard wiring devices, fuses, and fluorescent accessories.

Hooker Electrochemical Co., Niagara Falls, N. Y., has appointed James G. Walker as technical service representative. He will handle problems related to the shipping, storing, and handling of all Hooker chemicals.

Victor Chemical Works, Chicago Heights, Ill., has set up an exhibit in the Museum of Science & Industry, Chicago, as a part of its 50th anniversary celebration. The exhibit is entitled "The Story of Phosphorus Chemicals."

Link-Belt Co., Chicago, Ill., has elected Harold L. Hoefman as vice president in charge of manufacturing. Mr. Hoefman, who has been general manager of the company's Pershing Road plant, Chicago, since 1943, entered the employ of this plant in 1920 as a draftsman. David E. Davidson has been appointed general manager of the Pershing Road plant, to succeed Mr. Hoefman.

Automatic Transportation Co., Chicago, has appointed J. M. Johnson as assistant sales manager. He was formerly in charge of sales for Automatic's Transporter Div.

Gates Rubber Co. has moved its Boston industrial sales office to 110 Cummington St.

The Carborundum Co., Niagara Falls, N. Y., has purchased the former assembly plant of Philco Corp., 3345 West 47th St., Chicago, Ill., which, after additions and alterations, will become the Chicago sales offices and warehouse of The Carborundum Co. This will be under the direction of C. E. Hawke, domestic sales manager, and W. C. McCargo, regional sales manager, with Gordon C. Watson in charge as district sales manager.

Gould Storage Battery Corp., a division of National Battery Corp., St. Paul, Minn., has acquired the entire business and plant facilities of the Storage Battery Div. of Philco Corp. M. W. Heinritz, vice-president in charge of the Storage Battery Div. of Philco, has been appointed vice president in charge of the Trenton Div. of the Gould Storage Battery Corp.

T. R. Miller Mill Co., Inc., Brewton, Ala., has appointed L. E. Bartlett, formerly connected with Chicago Sales office of the American Lumber & Treating Co., to be sales manager of Miller's treating department.

Rittelmeyer & Co., Atlanta, Ga., has added I. Ben Kagey to its staff. Mr. Kagey, formerly with Kerby Saunders, Inc., and Carrier Corp., will assume responsibility for the accounts of American Air Filter Co., Clarage Fan Co., Sarco Co., Federal Pump Co., in addition to cooperating in sales engineering work for all companies represented by Rittelmeyer & Co. This firm has recently moved into its newly constructed office building at 150 Nassau St., N. W.

James F. Lincoln Arc Welding Foundation, Cleveland, Ohio—Winners of 452 awards totalling $200,000 in the Design-for-Progress Award Program sponsored by this foundation will be determined by a jury of 22 engineering and business educators now in session at Dartmouth College, Hanover, N. H. The competition has as its objective the encouragement of the study of welded design, research, application, and the use of arc welding. The first grand award amounts to $13,200.

Air Express Div. of Railway Express Agency, New York, will mark the 20th anniversary of air express on Sept. 1. Organized air express had its beginning on Sept. 1, 1927, when four airlines joined with the American Railway Express to establish nationwide air shipping serving Boston, New York, San Francisco and Dallas.

NEWS ABOUT *Mills*

Cotton Mill News

Anchor Duck Mills, Rome, Ga., has let contract to Rome Concrete & Construction Co. for a one-story addition to cost about $100,000, with equipment.

Beaumont Mills, Spartanburg, S. C., is having American Moistening Co., Charlotte, N. C., and Providence, R. I., install evaporative moisture system of air change and humidity control. Work has started on extensive revamping of all equipment and machinery. Installations include 4 frames reconditioned for longer draft, with 4 additional frames scheduled for early installation; 6 reelers; 50 looms; and 22 filling frames.

Berkshire Fine Spinning Associates, Inc., Providence, R. I., has purchased 107 acres of land near Erwin, Tenn., for the site of a new mill. The company now operates 14 plants in three New England states.

Callaway Mills has awarded contract for a two-story addition to its mill at Manchester, Ga., instead of a one-story addition, as previously planned.

Canadian Cottons, Ltd., will rehabilitate and expand production in its Cornwall, Hamilton, Milltown, and Marysville plants. This will entail an expenditure of nearly $5,250,000. Of the total sum set aside for this purpose, $3,167,000 has been spent up to Mar. 31, 1947. Nearly $400,000 is going for a housing project in connection with the firm's mill in Milltown, N. B. The whole property, which is located close to the mill, comprises about 15 acres and is well landscaped. Each home is to have sufficient space for a good-size garden.

Carolina Mills, High Shoals, N. C., recently completed a revamping program which included the installation of J-3 attachments for long draft on all roving frames, conversion of all conventional-draft spinning to long-draft, and Superior cleaners and feed hoppers in the opening room. Barber-Colman moisture controls have been installed on all slashers.

Carlton Yarn Mills, Cherryville, N. C., plans to construct an addition, 72x120 ft., which will provide an additional 18,000 sq. ft. of area on two floors and will be equipped with new-type spinning machinery.

Clark Thread Co., now expanding its operations in Georgia, is establishing a printing and dyeing plant in Bainbridge, Ga.

Esmond Mills, Ltd., Perth, Ont., will soon start manufacturing in its new plant which is nearing completion. Plans call for doubling estimated output in next two years.

Huntsville Mfg. Co., Huntsville, Ala., owner and operator of the former Merrimack Mill, plans expansion that will cost about $1,000,000 and will require six months to complete. The No. 1 mill will be modernized and 27,000 sq. ft. of floor space added. The spindle capacity will be increased by 9,834 and 80 additional frames will be installed. Additional changes now under way include constructing substation for increased output of electricity; providing additional storage space for cotton; and changing the water system to provide separate industrial and household supplies.

Langley Mfg. Co., Clearwater, S. C., has low bid from Potter & Shackelford, Greenville, S. C., at $585,000 for new warehouse and top-story addition to present mill building.

McCabe Cotton Co., Los Angeles, Calif., has purchased Fiberform Plastics Corp., Los Angeles, for $125,000. The new plant will be used for expansion of production of cotton and cotton felt.

Merrimack Mfg Co., Lowell, Mass., is planning to spend about $1,000,000 in revamping its plant. Jacob Ziskind is president.

Morgan Cotton Mills, Laurel Hill, N. C., plans addition to

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main building at a cost of $82,000. The additional space will provide more room for weaving and finishing machinery and increase employment 20%.

Newnan Cotton Mills, Newnan, Ga., is planning a one-story windowless building, 110x410 ft., of brick with ceramic tile on the inside, to be air-conditioned and have fluorescent lighting. All weaving activities will be consolidated in this new building. The company has ordered 72 new spinning frames and has 72 looms on order, of which 48 are expected to be delivered in the near future. J. E. Sirrine & Co. is architect and engineer.

Plymouth Mfg. Co., McColl, S. C., has ear-marked in excess of $600,000 for renovation program which is well under way. Projects started or about to be undertaken include installation of new cotton opening and cleaning equipment; vacuum stripping devices; large-package, long-draft roving machinery; new drawing frames; long-draft spinning equipment; automatic machinery cleaning units; fluorescent lighting; renovation of all looms with modern devices; humidification; oil burning boilers; additional warehouse facilities; and improved lighting and sanitary facilities for employees' houses.

Rockfish Yarn Mills, Inc., Hope Mills, N. C., and **Mebane Yarn Mills,** Mebane, N. C., have consolidated to form **Rockfish-Mebane Yarn Mills, Inc.,** which will operate the mills previously belonging to the two companies. There will be no change in the types of yarn produced or in distribution. E. N. Brower is president of the new company.

Samarkand Rugs, Inc., and **Rock Hill Yarn Mill, Inc.,** both of Rock Hill, S. C., have nearly completed an expansion program that will double capacity of the yarn mill and add greatly to the capacity of the rug mill. R. A. Postlethwaite is president of the company. A 30,000-sq.-ft. addition has just been completed at the yarn mill and a stock room has been added to the rug mill which has 6,500 sq. ft. of floor space and 120 bins capable of holding 150 rugs each.

Standard-Coosa-Thatcher Co., Chattanooga, Tenn., has awarded contract to Batson-Cook Co., West Point, Ga., for construction of an addition to its No. 2 Thatcher plant at cost of about $400,000, including building, equipment, and machinery.

West Point Mfg. Co., West Point, Ga., has completed purchase of Columbus Mfg. Co., at an estimated price of $7,000,000. The Columbus firm, which employs 1,200 persons in the manufacture of sheeting, was acquired to round out West Point's holdings of seven mills in Georgia and Alabama, the Lanett Bleachery & Dye Works at West Point, and Wellington Sears Co., selling agency, in New York.

Wool Mill News

Amoskeag-Lawrence Mills, Manchester, N. H., is putting in tubular-dyeing equipment for the knitting trade and is also installing equipment which will provide worsted yarn spun on the French, Bradford, and American systems.

Armtex Spinning Co., Inc., Pawtucket, R. I., has recently been formed with Emil Benoit, president and treasurer, and is now in production on commission spinning and direct selling of worsted, cotton, and hair-blend yarns. Mr. Benoit formerly was with Chaberay Mfg. Co., Woonsocket, R. I.

Canadian Worsted Manufacturers, Ltd., is to be established in the former plant of Elgin Brewing Co., St. Thomas, Ont., by a new organization. J. G. Gruber will be president and general manager; George Parkinson, plant manager.

Claybourne Woolen Mills, Watervliet, N. Y., branch of Roff Knitting Mills, is being removed to main plant in Cohoes, N. Y.

Cornwall Mills, Inc., Holyoke, Mass., is moving plant from the former Germania Mills on South St. to a building on Jackson St. owned by the Municipal Gas & Electric Department.

Excelsior Mills, Union, S. C., unit of Deering-Milliken chain of mills, has added a modern dye house. The mill produces wool fabrics, with 2,640 spindles and 64 looms.

Mill Supply Co., Bennington, Vt., has sold the Hudson Textile Co. machinery and equipment to an export-import firm in Lima, Peru. Lafayette Mills, which negotiated the sale, announces that Mill

Supply has also sold equipment ot Stony Brock Woolen Co., Reading, Pa. to the same concern.

Mohawk Carpet Mills, Amsterdam, N. Y., is completing prolonged negotiations with the government to acquire New River Ordnance Plant, Pulaski, Va.

Regis Textiles, Inc., Cohoes, N. Y., has recently been formed with Charles Forest, president; F. P. Jones, secretary and treasurer; and Alex Litster, superintendent. It is now in full production in commission rag picking and spinning of all types of yarns.

J. P. Stevens & Co., New York, N. Y., has purchased buildings and real estate of Robbins Cloth Mills, Rockingham, N. C., and will transfer to that location the worsted manufacturing operations now conducted at Peace Dale Mills, Peace Dale, R. I. Company will retain its woolen manufacturing processes at Peace Dale Mills. Under its new management the mill will be called Hannah Pickett Worsted Mills.

Vermont Textiles, Inc., North Montpelier, Vt., is putting in a new stock dyehouse and adding new power plant to generate its own electric power.

Waucantuck Mills, Uxbridge, Mass., plans one-story cement-block addition, 60x124 ft., to house blending and mixing departments. Concern has recently added six Prince-Smith spinning frames imported from England; two twisting frames; and six roving frames. John T. Brady is president and general manager.

Worsted Spinning & Finishing Co., Leicester, Mass., will build addition to yarn mill to cost about $64,000, exclusive of equipment.

Rayon & Silk Mill News

Actonvale Silk Co., Actonvale, Que., has completed plans for a one-story addition, 125x148 ft.

American Bemberg Corp., Elizabethton, Tenn., plans to increase production by 850,000 lb. per year and improve the quality of cuprammonium yarns by addition of new equipment that it has developed.

Asheboro Weaving Mill, Asheboro, N. C., will construct $150,000 plant for manufacture of rayon fabrics. Construction is to start immediately and is to be completed by Jan. 1. Plans call for installation of 200 looms at the start, with eventual expansion to 1,000. Britt Armfield, formerly with Burlington Mills, is vice-president of new firm which is a subsidiary of William Klopman & Sons, New York, N. Y.

Belding-Heminway-Corticelli Co., Morristown, Tenn., has completed work on its new throwing plant at Knoxville, Tenn., and will put it into production by Sept. 1, throwing yarns of various types. The 200 employees will turn out approximately 25,000 lb. per week. J. A. Emenhaser is general manager and W. F. Patrick, operating superintendent.

Sidney Blumenthal & Co., Shelton, Conn., plans one-story addition to weaving mill, 50x313 ft. Cost over $150,000, with equipment. Fletcher-Thompson, Inc., Bridgeport, Conn., is architect and engineer.

Canadian Celanese Ltd., Montreal, Que., plans to spend additional $3,000,000 on Drummondville, Que., program. The concern is also engaged in a Sorel, Que., construction program that will cost between $3,000,000 and $4,000,000.

Cascade Rayon Mills, Mooresville, N. C., will add 3,000 sq. ft. to present throwing department. Barger Bros., Mooresville, is contractor.

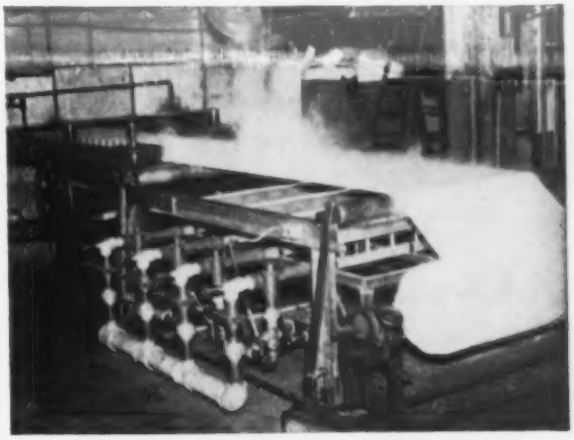
Cheney Bros., Manchester, Conn., is completing $3,000,000 program of installing automatic machinery and an air-conditioning system.

Celanese Corp. of America's new rayon plant at Rock Hill, S. C., is now in progress with field work under the direction of the general contractors. Daniel Construction Co., Greenville, S. C.

Celanese Mexicana, S. A., Ocottan, Jalisco, has attained production of 3,000,000 lb. of yarn per year, and expects to double its output in near future.

Coast Mfg. & Supply Co., Livermore, Calif., plans to add weaving and processing of Fiberglas cloth to its safety blasting fuse output. It will invest several hundred thousand dollars in equipment and alterations to existing plant.

Cutler Textiles, Inc., Boston, Mass., has gone into full pro-



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Dominion Silk Dyeing & Finishing Co., Ltd., Drummondville, Que., plans one-story addition to printing mill, 70x300 ft., to cost over $150,000. Erection contract has been let to Newton Construction Co., Ltd., Sherbrooke, Que.

Glendale Mills, Glendale, S. C., a division of J. E. Stifel & Sons, Wheeling, W. Va., has begun an expansion program to include the installation of about 1,000 new looms, carding machinery, air-conditioning and humidifying apparatus, cloth press, and auxiliary equipment. The entire project will cost about $1,500,000.

Hadley Mills, Inc., Holyoke, Mass., plans construction of $300,000 silk mill that will employ 300 workers at Taylorsville, N. C. Completion is due in seven months.

Hathaway Mfg. Co., New Bedford, Mass., will proceed with plans for construction of a mill addition to cost about $73,000.

Randleman Mills, Inc., Randleman, N. C., has been purchased by Proximity Mfg. Co., Greensboro, N. C. The property was sold by Susquehanna Mills, New York, N. Y., for an undisclosed sum. The plant, which was modernized recently, employs approximately 200 persons and produces synthetic-fiber yarns which will be used in connection with new plants now being built at Revolution Cotton Mill, Greensboro.

Spinnerin Yarn Co., South Hackensack, N. J., plans construction of $280,000 yarn plant.

Tennessee Eastman Corp., Kingsport, Tenn., has completed expansion of acetate yarn and staple fiber plant capacity, which was started in 1945. Present plant facilities represent an increase of 30% in filament yarns and more than 100% in staple fiber capacity over 1945.

Knitting Mill News

Argus Hosiery Mills, Inc., Morristown, Tenn., recently incorporated, will manufacture boys' hosiery.

Ashe Hosiery Mill, Knoxville, Tenn., has begun excavation for an addition which will enable the company to consolidate operations under one roof. It will be two floors and a basement.

William Carter Co. expects construction to be completed about Oct. 1 on its remodeling and construction program in Barnesville, Ga. The new building project will include boiler house, maintenance shop, warehouse, loading platform, truck ing area, a two-story addition to knitting and finishing departments, office, and new coal-storage silo. Charles E. Walker is superintendent.

Cherryville, N. C., F. A. Chamberlin of Lincolnton, N. C., is installing machinery for full-fashioned hosiery in the building formerly occupied by Robex Machine Co.

Duke Hosiery Corp., Hickory, N. C., is constructing a finishing plant which will cost $60,000. The building, now under construction, is the first floor of a factory that may be expanded later to approximately 60,000 sq. ft. of floor space, and cost approximately $240,000.

Fort Payne Hosiery Mills, Inc., Fort Payne, Ala., plans one-story addition to cost about $95,000, exclusive of machinery.

Gotham Hosiery Co., Inc., has let $500,000 contract to Carrier Corp. for air conditioning in two of company's mills in Philadelphia and one in Fort Wayne, Ind. This is part of a large-scale expansion program which also includes installation of a number of high-speed machines for manufacturing full-fashioned nylon stockings. The company has taken long-term leases from Hess-Taylor Kreiss Co. on three hosiery mills which are located in Jasper, Ala.; Crossville, Tenn.; and Eleanor, W. Va. Aggregate rental of these mills will be over $2,000,000. They were among the last constructed in this country before the war and are fully air-conditioned. They are equipped with Wildman 15-in. single unit machines. All hosiery knit by them will be finished in Gotham's Philadelphia plant.

Hampton-Krenn, Inc., Martinsville, Va., will start operations soon. The mill will manufacture cloth and garments;

processes will include knitting, cutting, dyeing, sewing, and finishing. The plant will occupy 15,000 sq. ft. of floor space and will employ about 50 persons at the start. H. T. Cross, is president.

Julius Kayser & Co., Walton, N. Y., plans a one-story addition to cost about $100,000. Clarence Higginson, New York, N. Y., is architect.

Lamar, S. C.—Plans are going forward for establishment of a hosiery mill, which will be owned and operated by Lamar stockholders. Machinery has been purchased and will be delivered in August. President is Dr. G. L. Boykin; vice president, Gerald Beasley; secretary and treasurer, Alton Jeffords.

Mills Knitting Co., High Point, N. C., is a newly organized mill for the manufacture of outerwear. Harvey A. Mills of High Point is head of the new concern which will operate under capital stock of $100,000.

Parker Hosiery Mill, Old Fort, N. C., is installing 50 additional knitting machines.

Standard Knitting Mills, Inc., Knoxville, Tenn., plans addition to cost about $157,000, exclusive of equipment.

Tower Hosiery Mills, Burlington, N. C., has begun large expansion program that will include installation of temperature-control system in present building, with all windows removed. The new building being constructed in the rear of the present one will have about 18,000 sq. ft. of floor space to accommodate 22 new full-fashioned, 51-gage hosiery machines.

Valley Knitting Co., Pottsville, Pa., is undergoing extensive alterations. Approximately 10,000 sq. ft. will be added to house new equipment. The program involves a total expenditure of about $75,000.

Whittenton Mfg. Co., Taunton, Mass., is installing 10 high-speed Aveco tricot machines as well as making additions to its dye house to finish rayon tricot and woven piece goods.

West Knitting Co., Wadesboro, N. C., has completed modernization program in all departments. A considerable amount of new machinery and equipment has been installed, along with other improvements.

York Knitting Mills, Ltd., Toronto, Ont., recently opened branch hosiery manufacturing plant in Woodstock, Ont. The new plant contains 60,000 sq. ft. of floor space and produces 54-gage full-fashioned hosiery.

Dyeing & Finishing Plant News

Acme Backing Corp., Brooklyn, N. Y., will build new one-story mill, 90x200 ft., for processed and coated-fabric manufacture, at New Milford, Conn., with boiler house and pumping station. Cost close to $380,000, with equipment.

Cluett, Peabody & Co., Inc., New York, N. Y., is reported to be planning construction of large bleachery project near Atlanta, Ga.

Cone Finishing Co., Haw River, N. C., has begun erection of a one-story dyehouse addition, for which contract recently was let to H. L. Coble Construction Co., Greensboro, N. C.

Herzl Textile Dyers, Inc., Brooklyn, N. Y., is a new finishing plant capable of producing 40,000 yd. daily. Officers of the new corporation, who also own Excellent Textile Dyers, Inc., are Sidney Goldberg, president; Philip DePaul, vice president; and Murray Lippman, secretary-treasurer.

Lowell Bleachery South, Inc., Griffin, Ga., has let contract to Newton Coal & Lumber Co., Griffin, for one-story addition to cost about $185,000, with equipment.

Mt. Hope Finishing Co., North Dighton, Mass., has taken bids for renovation of boiler plant and will install new boilers. Building is brick and steel, 50x125 ft. Roof will be extended upward and sidewalls altered.

North Carolina Finishing Co., Yadkin, N. C., is planning addition of 8,000 sq. ft. for warehouse facilities and a new laboratory.

Sudan Textile Printing Corp., Fitchburg, Mass., is now printing, processing, and selling textiles. Daniel Buchill is president and treasurer; Meta T. Hamer, secretary.

R. Wolfenden & Sons, Attleboro, Mass., plans new warehouse to cost about $95,000, exclusive of equipment.

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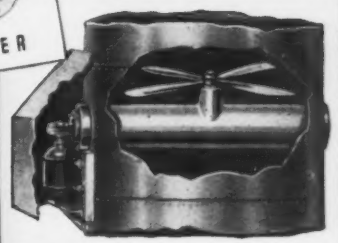

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NEWS ABOUT Men

Raymond R. Rice has been named president-treasurer of three Pulaski, Va., hosiery firms, following resignation of **Waldemar Wallner.** He served as vice president of Virginia Maid Hosiery Mills, Inc., Wallner Silk Hosiery Mills, Inc., and Acme Hosiery Dye Works, prior to his promotion. **Ralph Vollmers** has been elected vice president of Virginia Maid; **Fred Cole,** vice president of Wallner Mills; and **Dr. Frederick Delp,** vice president of Acme. **John H. Rice** has been appointed industrial relations director to succeed **Chris H. Whiteman.**

Herbert Grandage has become president of Spool Cotton Co., New York, succeeding the late William B. Bachof. Mr. Grandage has been executive vice president since 1937.

John P. Harrison, former president and general manager of Harrison-Walker Mills, Shelby, N. C., has been named vice president and general manager of Commander Mills, Inc., Sand Springs, Okla. Before going to Shelby to operate his own mill, recently sold, Mr. Harrison was general superintendent of Dundee Mills, Griffin, Ga.

T. B. Pollard has been elected president of Galax Knitting Co., Galax, Va. He succeeds **J. T. Pollard,** who continues as chairman of the board. **G. E. Anderson** was elected vice president and sales manager; **R. W. Hawks,** secretary-treasurer; and **J. A. Matthews,** assistant secretary-treasurer.

T. C. Sippel, vice president and general manager of Samarkand Rug Mills, Inc., and of Rock Hill Yarn Mill, Inc., Rock Hill, S. C., has resigned to become affiliated with Amber Glow Products Co., Rock Hill. **Lyon Every,** manager of finishing department of the rug mill, will become superintendent; and **William Prince,** superintendent of the yarn mill, will continue in that capacity. **W. L. Howell** will handle the duties of office manager.

George L. Williams, formerly secretary, has been elected a vice-president and secretary of the Swift Mfg. Co., Columbus, Ga., to succeed the late Grover C. Barfield, Sr.

REAR ADMIRAL RICHARD E. BYRD, U. S. N., has accepted a directorship in Reeves Bros., Inc., New York, effective when he retires from active duty later this year. For many years, Admiral Byrd has closely cooperated with the company and its subsidiary mills, lending his experience and counsel to the development of an entirely new wind-resistant and water-repellant cotton fabric. This is, of course, the fabric known as Byrd Cloth, which is produced and marketed by divisions of Reeves Bros.

James L. Frink, city manager at Greensboro, N. C., has been appointed to head the construction, engineering, and maintenance department of the Burlington Mills Corp., Greensboro, N. C. He succeeds **K. H. Boydell,** who has been elected vice president in charge of general manufacturing of Burlington Mills International Corp.

Walter B. Dillard has resigned as executive vice president and agent of Pomona Mfg. Co., Greensboro, N. C. **Ralph E. McKenna,** superintendent, has also resigned.

J. H. McFarland has been named vice president of James Lees & Sons Co., Bridgeport, Pa. He fills the vacancy caused by the death of C. R. Wright,

vice president and marketing director of the firm.

Harry Barnes, formerly associated with Arthur Beir & Co., Inc., has formed the Princeton Lace & Embroidery Co., New York, N. Y.

Laut R. Wade has been appointed assistant to Gilbert Verney, president of Verney Corp., New York, N. Y.

Stephen J. Stroock has been elected vice president in charge of operations of S. Stroock & Co., Inc., Newburgh, N. Y.

John Haesler has been appointed assistant vice president of Duplan Corp., New York, N. Y.

W. C. Bowden has become general manager of Itasca Yarn Mills, Inc., Itasca, Tex. He was formerly superintendent of Southwestern Cotton Mills, Waco, Tex.

Robert E. Boyaval, formerly Philadelphia representative for Masurel Worsted Mills, Woonsocket, R. I., has succeeded **R. C. Bruce** as treasurer, general manager, and buyer.

George L. Brogden, Julius B. Cronheim, and **Adolph Mayer** have been elected directors of Fulton Bag & Cotton Mills, Atlanta, Ga.

Lawrence Churchville, formerly of Faith Mills, Inc., Averill Park, N. Y., is now resident manager of Aetna Mills of Wilson Bros., Troy, N. Y. **William Hurd,** former superintendent of mill, has retired.

Lorenzo S. Fox has resigned as general superintendent of Merrimack Mfg. Co., Lowell, Mass. Mr. Fox has been an executive with the company for the last 22 years.

Frank H. Gleason, formerly superintendent of weaving for E. W. Twitchell Corp., Philadelphia, Pa., has become plant manager with Cotswold Fibers, Inc., Columbus, Ga.

Gordon Hanes has been chosen secretary to succeed the late William Roy Brookbank at Hanes Hosiery Mills, Winston-Salem, N. C., Mr. Hanes has been office manager, and **Clifford Perry,** who has been with the company for 10 yr., will succeed him in that position.

Harold J. Michel has been named manager of American Viscose Corp. plant, Lewiston, Pa. Before joining American Viscose in 1946 as manufacturing superintendent at Lewiston, he was plant manager of the Skenandoa Rayon Corp., Utica, N. Y.

Virgil E. McDowell, assistant superintendent, Rosemary Mfg. Co., Roanoke Rapids, N. C., was elected president of Southern Textile Association at its recent annual meeting, succeeding **John M. Caughman,** general superintendent of Spartan Mills, Spartanburg, S. C., who becomes executive secretary upon the retirement of **Marshall Dilling,** Gastonia, N. C., who was a charter member of the body in 1906 and who has been executive secretary since 1930. **Robert T. Stutts,** superintendent, Easley Cotton Mills, Liberty, N. C., is now vice president, and **Smith Crow,** general superintendent of Erlanger Mills, Lexington, N. C., is chairman of the board.

Oliver G. Edwards, formerly director of research for Avondale Mills, Sylacauga, Ala., has been appointed to the staff of the Industrial Research Institute of the University of Chattanooga, Chattanooga, Tenn., where he will investigate textile problems. He was lately in Germany as member of the Quadripartite Commission on Textiles to settle the industrial level for postwar Germany.

M. Roderiques, Jr., superintendent of Amoskeag-Lawrence Mills, Manchester, N. H., has resigned to go to Sao Paulo, Brazil as technical administrator of a new cotton mill.

D. E. Sherill, recently named superintendent of Mills Mill Plant No. 2, Woodruff, S. C., has assumed his new duties. He succeeds **Frank Cunningham,** who has been made general superintendent of all Reeves Bros. plants.

Harry Baldwin has been appointed general manager in charge of production of Verney Corp., New York, N. Y. **John Mason** will be his assistant.

Robert Gow, Jr. is now general manager of Great Barrington Mfg. Co., Great Barrington, Mass. He was formerly with Lowell Bleachery, Lowell, Mass. and St. Louis, Mo., and for the last 12 yr. has been superintendent of Commander Mills, Sand Springs, Okla.

C. V. Williams, treasurer and general manager of Federal Knitting Co., Inc., Philadelphia, has been elected presi-

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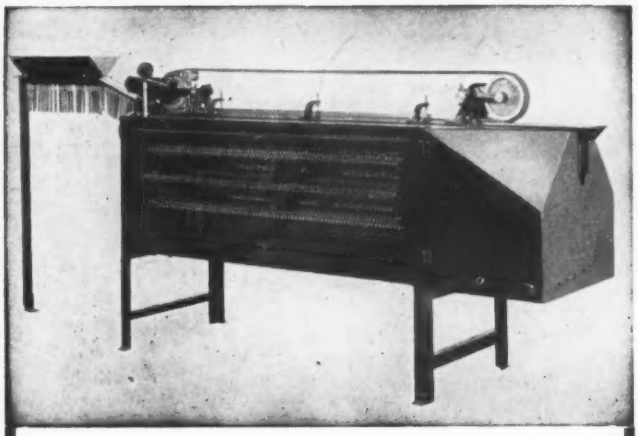

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Made any size or style wanted. Center and end wheels. Water proofed and chemically resistant finish.
Self-oiling and no grease can drop on the floor. Used for all kinds of fine yarns, wet or dry.
Bottoms finished 1⅜". Sides and ends finished 1¼", 1⅛", 1" or ⅞", whichever desired. Made from maple, poplar, cypress or fir lumber. WRITE US TODAY.

FRANK BAILEY
CEDAR BROOK P. O.
CAMDEN CO., NEW JERSEY

dent of the company succeeding George Flint who died last month. **Herbert A. Payne,** vice president, has retired and his son, **Somers Payne** has been elected vice president and director. **David Wells** has been named secretary and director.

S. M. Fessenden, manager of Sayles - Biltmore Bleacheries, Inc., Asheville, N. C., has retired and is succeeded by **Frank O. McShane.**

W. Benton Pipkin, manager of Edna Mill plant of Proximity Mfg. Co., Reidsville, N. C., has resigned. Succeeding Mr. Pipkin will be **William H. White,** who is a former assistant superintendent of Eno Cotton Mill, also a Proximity affiliate.

George A. Perrenod is now associated with Native Laces & Textiles, Inc., New York, as senior draftsman and will be in charge of all drafting work for the several plants operating for the company. He resigned from North American Lace Co., Philadelphia, Pa., after being with them for 37 yr.

Gordon W. Enlowe has been appointed quality control and production manager of American Thread Co., Dalton, Ga. He was graduated in textile engineering at the Alabama Polytechnical Institute.

L. P. Webster was recently appointed secretary and executive assistant of Dominion Textile Co., Ltd., Montreal, Que. Mr. Webster has been with Dominion for the last 18 yr. **N. E. Kenrick** is comptroller.

O. S. Brock, formerly assistant manager of Bemis Cotton Mills, Bemis, Tenn., has been appointed manager of Indianapolis Bleachery Co., Indianapolis, Ind., a subsidiary of Bemis Bros. Bag Co., St. Louis.

Thomas H. Black, Jr. has transferred from yarn commercial research department to carpet division of James Lees & Sons Co., Bridgeport, Pa., and will be a staff assistant to **M. R. O'Hagan,** central division manager in Chicago. **Carl H. Asher,** now of the carpet division's research division will head both yarn and carpet research.

Frank Butler has been named director of purchasing at Collins & Aikman Corp., Philadelphia, Pa., to succeed **Samuel Lukens,** resigned. Mr. Butler was formerly assistant in the purchasing department.

F. C. Chenault, formerly sales manager of Bemis Bros. Bag Co., Memphis, Tenn., has been appointed manager of all operations in the Memphis plant. He succeeds **C. W. Loomis,** who has been transferred to the home office in St. Louis.

J. T. Martin, formerly paratrooper, U.S.A., is now foreman of spinning at Cannon Mills, Eatonton, Ga.

E. S. McCall, boss weaver for Easley Mills, Liberty, S. C., is retiring after 38 years' service. He will be succeeded by **A. L. Hendricks,** from Dunean Mills, Greenville.

Barney O'Reilly has taken charge of carding at Worcester Spinning & Finishing Co., Leicester, Mass.

Donald C. Thompson, formerly assistant chief engineer at Roanoke plant of American Viscose Corp., will head the corporation's new engineering development department at Roanoke. **William H. Kreamer** has been named assistant chief engineer.

Thomas J. Clark, recently graduated from North Carolina State College's School of Textiles, will start work with Fieldcrest Mills, Draper, N. C., on Aug. 18.

Frank J. Hart has been appointed overseer of spinning for American Woolen Co.'s Norwich Mills, Norwich, Conn.

E. G. Hester, formerly with Callaway Mills, La Grange, Ga., is now overseer of carding at Blackinton Mills, Inc., Conestee, S. C.

William Gunter has been made overseer of carding and spinning at Norris Cotton Mills Co., Cateechee, S. C. He was formerly second hand for Woodside Cotton Mills, Greenville, S. C.

N. D. Hamel, formerly dyer with Hockanum Mills, is now with American Dyeing Corp., Rockville, Conn.

Wilfred Emery is now overseer of weaving for Albany Felt Co., North Monmouth, Me.

A. H. Bloomfield is now assistant superintendent of Corriedale Mills, Moosup, Conn.

Thomas Silke has been named superintendent and **Emile Pelletier,** general foreman of weaving at Amoskeag

Mills, Inc., Manchester, N. H. Both were formerly with Textron, Inc., at Suncook, N. H.

Frank Wiesner has been named head designer of Wood Mill, Lawrence, Mass., of American Woolen Co., to succeed **C. E. Curran,** who has resigned.

Rufus Taylor, who was formerly with American Textile Co., is now overseer of dyeing at Rhode Island Lace Works, West Barrington, R. I., succeeding **John H. McCusker,** who has resigned.

Paul Bonsaint has resigned as general overseer at Amoskeag Mill, Manchester, N. H., to become assistant superintendent at Tilton Worsted Mills, Laconia, N. H.

Varlow Ashton, formerly at Manton Mills, has been appointed overseer of finishing for American Woolen Co. National & Providence Mills, Providence, R. I., succeeding **Joe Dolan,** resigned.

Knute Howker has been promoted to overseer of finishing at Methuen International Mills, Methuen, Mass.

Charles Kovitch, formerly with River Point Finishing Co., West Warwick, R. I., is now superintendent of the R. I. Dye & Finishing Co., West Warwick, R. I.

Leroy J. Maine, formerly with Raritan Mills, Raritan, N. J., is now overseer of weaving at John Walther Fabrics, Inc., Philadelphia, Pa.

John A. McKay has been promoted to overseer of dyeing at Norwich Mills of American Woolen Co., Norwich, Conn., succeeding **T. H. Moran** who has resigned.

Robert Newell, cloth room supervisor at Ashland Corp., Jewett City, Conn., has left to go to South America as technical advisor for United International, Inc., the subsidiary of United Merchants & Manufacturers, Inc., which supervises that firm's foreign activities.

Frederick H. Gunther has been named superintendent of Merrimack Mfg. Co., Lowell, Mass. Mr. Gunther succeeds the late Gilbert Bell.

Alvan Hamm has been promoted to superintendent at Hartford Spinning, Inc., Unionville, Conn.

Thomas E. Lawson, who has been assistant superintendent of Granby Mills, Columbia, S. C., has been promoted to superintendent, succeeding **Stanley A. Black,** now general manager, Monarch Mills, Union, S. C.

E. Matthews, former overseer of finishing at Moosehead Woolen Mills, Corinna, Me., has been succeeded by **William Hughes.**

W. Morse, night superintendent, and **W. Hussey,** chemist, have left Winthrop Mills, Winthrop, Me.

Howard Oldfield is now overseer of finishing for Dunn Worsted Mills, Woonsocket, R. I. **A. Hubert** has resigned.

Obituary

George M. Montgomery, 90, chairman of the board of Montgomery Co., manufacturers of tinsel and yarn, died June 28 at Windsor Locks, Conn.

R. H. Lewis, 69, for many years president of Oxford Cotton Mills, Oxford, N. C., died June 15.

Frank M. Barnard, 80, of Montreal, Que., president and director of Renfrew Textiles, Ltd., Renfrew, Ont., until his retirement in 1927, died recently. He began his career in the textile industry with David Morrice & Son, and later joined J. R. Moodie & Co., Ltd. He represented the latter firm for over 40 yr. in Hamilton, Toronto, Montreal, and the maritime provinces of Canada.

Arthur Ross, Asheboro, N.C., co-owner with his son, Arthur, Jr., of Tip Top Hosiery Mills, Asheboro, died June 11.

James H. Hancock, former owner of Wottoquottoc Worsted Co., Hudson, Mass., died recently.

Carl C. Mattmann, Sr., 75, silk manufacturer died recently on Long Island, N. Y. Mr. Mattman succeeded his father many years ago as manager and treasurer of the former Astoria Silk Works, Long Island City, N. Y., and was associated with that company for 35 yr. In 1923, he founded the Mattmann Silk Mills.

Max Mintz, 63, proprietor of Mintz Textiles, Worcester,

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Accurately—quickly—easily!

Now you can insure against Moisture testing troubles — save time and avoid errors. Moisture Register instruments for the textile industry are accurate down to 0 %. They are completely portable and simple to use.

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Single room with bath from $3.00
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NEWS ABOUT MEN

Mass., for 20 yr., died recently in that city.

S. S. Parham, 76, Henderson, N. C., one of the organizers of Carolina Bagging Co., president of the company for many years, and at the time of his death chairman of the board, died June 15.

Harold S. Edwards, formerly treasurer of Francis Willey & Co., Boston, died recently in Santa Paula, Cal. He was president of the Boston Wool Trade Association in 1922.

Herbert G. Ansin, 32, president of Joan Plush Mills, Inc., Woonsocket, R. I., was killed in Canaan, Conn., June 28. Mr. Ansin was also head of the Royal Textile Co., Boston, Mass., and Joan Fabrics Co., New York.

George J. Swift, 65, vice president of Leaksville Woolen Co., died at Bloomfield, N. J., recently.

Henry Higgs, 81, died June 25 at Providence, R. I. For years he was a salesman for the Klauder Weldon Dyeing Machine Co., Amsterdam, N. Y., and later Providence representative of H. W. Butterworth & Sons, Philadelphia.

Michael J. Callahan, 57, manager of the fabrics division of the Fabrics & Finishes Department of E. I. du Pont de Nemours & Co., died June 25. He had been with the company for 31 yr.

E. G. McIver, 66, of Durham, N. C., secretary and member of the board of directors of Erwin Cotton Mills Co., died June 26. A graduate of the Philadelphia Textile School, he has been with the company since 1905.

John Noble Stearns, Sr., 83, retired silk manufacturer, died June 30 at his home, "Balua," near White Hall, Va.

George P. Gaut, former vice president and general manager of Knoxville Knitting Mills, Knoxville, Tenn., died June 28.

D. D. Burton, 78, general manager of Aileen Cotton Mills, Biscoe, N. C., and secretary-treasurer of Smitherman Cotton Mills, Troy, N. C., died June 22.

Dr. Glen M. Smyth, 57, technical consultant and specialist for the Calco Chemical Div. of American Cyanamid Co., Bound Brook, N. J., died recently.

H. Van de Velde, 69, managing director of Felt & Textiles of Australia, Ltd., Sydney, New South Wales, died June 8 in New York.

Gordon Young, 56, head of fabric development, Burlington Mills Corp., New York, died recently. Previous to joining Burlington Mills in 1932, he was associated with the Henry Doherty Silk Mills, Oriental Silk Printing Co., and Smith & Kaufmann, all of Paterson, N. J. He also operated his own business in textiles at one time.

L. B. Anthony, 55, superintendent and general manager of Double Shoals Mills Co., Shelby, N. C., died June 28. Prior to joining Double Shoals as superintendent in 1934, he had been superintendent of Belmont Mills in Shelby for about 12 yr.

J. Virgil Garrett, 61, High Point, N. C., for more than 35 years with Adams-Millis Corp., but more recently purchasing agent for Chadbourn Hosiery Mills, Charlotte, N. C., died June 28.

James Robert Wilson, 70, formerly superintendent of Camperdown and Poinsett Mills, Greenville, S. C., Columbia Mfg. Co., Ramseur, N. C., and Mayo Mill, Mayo, S. C. and in the textile industry for 60 yr., died July 3.

Vincent M. Smith, night superintendent for the last five years at Warren mill of Berkshire Fine Spinning Associates, Inc., Warren, R. I., died June 22.

George Walter Etheredge, 86, retired superintendent of Crystal Springs Bleachery, died at his Chickamauga, Ga., home late last month.

Carroll E. Rennie, Manchester, N. H., formerly president of New Hampshire Textile Executives Association, died June 19. He was active as a textile-mill overseer and most recently was associated with Arms Textile Co.

John Allison Abernethy, 59, Hickory, N. C., superintendent of the Hickory unit of J. A. Kline & Son, died at his home there July 13.

Henry Eugene Cox, 56, for 33 yr. connected with Grendel Mills, Greenwood, S. C., died June 19. At the time of his death, he was night superintendent.

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POSITIONS OPEN

SUPERINTENDENTS for the following mills: worsted drawing and spinning plant, rayon cloth mills, worsted cloth mills, cotton mill (Foreign), pressed felt mill.

Textile school graduate with five years' experience in rayon fabric constructions $4,000 year (New York City); assistant superintendent knit goods cutting, sewing and finishing; expert woolen dress goods designer.

OVERSEERS for the following departments: mending in large worsted men's wear and dress goods mill; rayon weaving third shift; silk spinning and throwing second shift; worsted twisting and reeling; stitching room for men's sport shirts; jig dyeing on acetates, rayons $100 week; woolen carding, tapes and ring doffers; French drawing and spinning; finishing woolens and worsteds; woolen dressing $80 week; dyeing and finishing narrow fabrics; French drawing; Bradford drawing; worsted carding and worsted combing.

Leighton transfer machine fixer $2.00 hour; worsted designers and technicians (New York City); textile school graduates for mill positions in New York City and to sell chemicals, soaps, oils, etc.; 2nd hands and fixers all departments; chemists and laboratory men; woolen dresser tender; fixer double shuttle velvet looms; Barber-Colman knot tying operator; fixer for hosiery loopers and seamers;

Assistant designers, worsteds and woolens; finish cloth perchers and examiners; wool sorters and graders; junior cost accountants; Draper loom fixers, also slasher tenders; shear tender; thread dresser tender; plush loom fixer, etc., etc.

Overseer worsted twisting and reeling, (Canada); textile school graduate experienced in rayon cloth construction, (New York City) $4,000 year to start; boss weaver (rayons) third shift, and overseer silk spinning and drawing second shift, (South).

We invite correspondence (confidential) with mill executives seeking new positions and employers seeking new executives.

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Over 45 years Confidential Employment Service for Textile Mills

TEXTILE OPENING
UNITED STATES RUBBER COMPANY

Opportunity for man with textile training and capable of assuming full production responsibility. Experience in handling fine fabrics preferred. Age 32-42 years. Position in a young and growing Textile Department. Location: Rhode Island. Forward resume of education and experience

P-1328, Textile World
330 West 42nd Street, New York 18, N. Y.

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Wanted for WOOLLEN MILL

Located in Quebec near U. S. Border. Must be experienced, energetic and ambitious. Good chance for right man.

HUNTINGDON WOOLLEN MILLS LTD.
Huntingdon, Quebec, Canada

EXECUTIVE WANTED

Plant Manager, capable of supervising dyeing and finishing wide variety of synthetic fabrics, both filament and spun blends, end use ranging from ladies intimate apparel to men's suitings. Applicant must have experience in synthetic resin finishes and be competent to control dyeing procedures to required specifications for color and fabric construction stability.

Prefer college man with sufficient initiative to direct one or more plants, in a progressive company offering a timely opportunity for the right man to grow with this organization.

P-1437, Textile World
330 W. 42nd St., New York 18, N. Y.

POSITIONS VACANT

COLORIST FOR roller plant mill in South. Give full details of training and experience, also salary expected. P-1326, Textile World, 330 West 42nd St., New York 18, N. Y.

PHYSICAL CHEMIST for large nationally known company. Experience with textiles and Ph.D. required. Under 45. Experience must include successful executive work in this field. Salary $8,000 to $10,000. P-1474, Textile World, 330 West 42nd St., New York 18, N. Y.

WANTED FOR permanent position in India. Production engineer for a textile machinery manufacturing plant. A thoroughly qualified and experienced engineer capable of designing and planning modern cotton spinning machinery and taking full administrative charge of plant. Factory near Calcutta. Good living conditions at moderate cost. State full details of background and salary desired. Also for same plant, an experienced factory manager capable of taking full charge of plant. P-1330, Textile World, 330 West 42nd St., New York 18, N. Y.

SELLING OPPORTUNITY OFFERED

EXPERIENCED AGENTS wanted. Well established textile processing chemical manufacturer seeks agents in textile centers throughout country. RW-1553, Textile World, 330 West 42nd St., New York 18, N. Y.

WANTED—KNITTING machinery salesman who understands all types of knit goods and merchandise and how it is produced. Must possess a good knowledge of different types of flat knitting machinery. Compensation will be arranged upon personal interview. Good future with an established firm of many years standing. Large variety of different types of machines to sell in an unlimited territory. Write to SW-1404, Textile World, 330 West 42nd St., New York 18, N. Y.

POSITIONS WANTED

POSITION WANTED: Weaving Overseer 14 years experience in weave room. 33 years of age. Sober, married, Baptist religion. References. PW-1255, Textile World, 330 West 42nd St., New York 18, N. Y.

TRICOT FIXER & FOREMAN

With wide experience on warp knitting machine. Wanted for Tricot mill located California.

P-1528, Textile World
68 Post St., San Francisco 4, Calif.

POSITIONS WANTED

POSITION AS Superintendent or Carder on cotton. Carder 4 best mills in New Bedford, Mass., for 20 years, also a fifteen million dollar fine fabric plant 8 years. Superintendent, New England mills, New York state, South, West and Mexico on everything that uses cotton from bats and ropes to India Lawns and 80" to 100" yarns daily. Details if interested. Address W. R. W., 16 Dervey St., Easthampton, Mass.

GENERAL MANAGER or Superintendent on menswear or womenswear woolen and worsted manufacturing experienced all departments, production, personnel, wool buying, fabricating, designing. Textile school graduate. Age 40. Minimum salary $6500. PW-1329, Textile World, 330 West 42nd St., New York 18, N. Y.

YOUNG MAN, 26, veteran. Nine months factory experience time study and wage incentives; five months office experience production planning and control apparel industry. October 1945 Wharton MBA industrial management graduate. Desires trainee position with future. Salary and location secondary. PW-1570, Textile World, 330 W. 42nd St., New York 18, N. Y.

(Continued on page 252)

Available
EXECUTIVE'S ASSISTANT

Phila. Textile Institute graduate with 13 years practical experience in shaft and Jacquard fabrics. Well versed in fabric designing, layout, costing, analysis, production control and mill management. 34 years of age.

Apply PW-211, Textile World,
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EXPEDITOR

12 years experience in weaving production control from raw stock to finished fabric, shaft technical designing, analysis and costing.

Apply

PW-1423, Textile World,
330 W. 42nd St., New York 18, N. Y.

POSITIONS WANTED

(Continued from page 251)

WEAVING SPECIALIST, young European, textile technician, wide experience in cotton, rayon, silk, and wool desires employment. PW-1551, Textile World, 330 West 42nd St., New York 18, N. Y.

TEXTILE ENGINEER B.S. 16 years experience practical mill and technical sales—slashing, throwing and finishing all types yarn. Now employed as district manager chemical sales. Large following. Desires position as sales manager for progressive chemical concern. PW-1543, Textile World, 330 West 42nd St., New York 18, N. Y.

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ENGINEER, INDUSTRIAL Graduate, licensed, professional. Available for part-time work installing or checking operating and production methods, incentive plans, quality controls, training systems, job evaluation, labor relations. Former chief, large rayon corporation. Highest references. South preferred. PTWW-272, Textile World, 330 W. 42nd St., New York 18, N. Y.

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Fabrics and yarns
In China
Will go abroad soon
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Large, reputable textile agency wishes to contact manufacturers or distributors (exporters) for sale of piece-goods,—cotton, wool and silk. Please reply to
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Well introduced agents firm invite offers from manufacturers of ALL SORT OF YARNS & PIECEGOODS, for sales throughout Scandinavia. Commission base. Apply To:

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Now representing two companies in the textile and wire industries selling heavy machinery has some time available and would like to represent one or two additional companies in the North Atlantic States on a commission basis.

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Contact with plant having suitable equipment for special slack mercerising of 58" heavy Cotton Sateen for approximately 15% shrinkage warp and filling, in 20% caustic soda, to be followed by washing and impregnation with magnesium chloride. Drying at low temperature.

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UP TO DATE & COMPLETE
FOR SALE AS A GOING BUSINESS
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We will purchase your surplus of rayon and acetate yarns. No quantities too small or too large.

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40 denier and 70 denier Nylon
Please Quote
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All types—Cotton, Rayon, Acetate. Natural, Tinted or Dyed.

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RAYON YARN

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Or will exchange for other yarns.

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YOU'RE PAYING FOR PRODUCTION

Your expenditure for Textile Machinery is made to buy performance—profitable performance. The ONLY way to be certan you get this is to be sure of the Company you buy from. Ask any experienced Textile man WHO . . . and his answer will be ◀ MLC ▶

1—72" C&M 2-cylinder Brushing machine
3—Button Breakers 2-48", 1-50"
2—45" Textile Finishing Machine Co. 6-bowl Calenders
2—54' x 60" D&F 2-cylinder iron Shoddy Cards with feeders
1—Lot Numerous Card Parts
1—65" C&M Dewing Machine, motor driven
1—64" P&W Doubling & Rolling-up Machine with clock
1—Set 8 Textile Vertical 48" x 23" Copper Dry Cans
1—Set 20 H.P. Butterworth 108" Drycans, dryer
1—54" x 54" Taylor Wadsworth Batch Type Waste Duster
1—18" Copper Basket Extractor
2—26" Tolhurst Extractors, belt driven
1—32" Tolhurst Copper Basket Extractor
1—48" Hercules Rubber covered Hydro-Extractor, motor driven
1—45" Dobson & Barlow Cotton Feeder
3—40", 42" E&H Flat Folders with take-up stands
1—100" C&M Flat Folder, motor driven with hydraulic lift and roll-up stand
15—40", 80" card and Napper Grinders
1—60" Dye Jigger with stainless steel rolls and self adjusting spreaders
200—40" Draper Model K. 20 Har Dobby Looms
2—45½" C&K 4 x 1 Dobby Looms, motorized
110—45½" reed space Model E Draper Looms with lacey tops 3 bank stop-motions, warm take-up, belt driven
1—48" C&K 4 x 4 box Loom, 25 harness, belt driven, friction clutch
12—54½" C&K Box 20 35 Harness Dobby Looms
32—54" R.S. C&K 4 x 1 Auto. Looms, 20 harness double index dobby head
2—74" Heavy Duck Looms, roller top
14—82" C&K 2 x 1 automatic Looms, 8 harness cam motions, motor driven
10—92" C&K, 4 x 1 Automatic Looms, 8 Harness, Cam Motion Motor Driven
16—92" & 100 C&K 2x2 Box Auto. Looms with Baker 3-mix attachments, 25 harness gem heads
8—100" & 110" C&K 4 x 4 Box Looms, 25 harness, belt driven

COMPLETE MILL UNITS

Profit Opportunities

* A Six Set Woolen Yarn Mill
* Fourteen set Woolen Yarn Mill
* A Woolen Piece Goods Finishing Plant
* 3400 Spindle Bradford System Worsted Spinning Mill
* Six Loom Weaving Plant for Plastics or Wool—110" C&K 4 x 4 25 harness Looms, with accessory equipment
* 5208 Spindle Cotton Mill, equipped with 24 Cards and Foster #101 Winder. Priced for quick sale.
* 15,000 Spindle Cotton Mill with reconditioned machinery, including 61 Cards, Auxiliary Equipment and Winders
* 30 Loom Label Weaving Mill
* 48 Loom Rayon Weaving Plant—44" & 46" Looms, etc.
* 20 Loom Rayon Weaving Plant—46" & 52" Looms, etc.
* Complete Engraving Equipment for Textile Printing Cylinders with 15 Pantograph Machines

MANY OTHER UNITS WITH PROFITABLE PRODUCTION POSSIBILITIES. PLEASE OUTLINE YOUR REQUIREMENTS.

SEND FOR COMPLETE DETAILED LIST OF MACHINERY FOR SALE

1—58" Blake Inspecting, Winding & Measuring Machine
1—64" P&W Measure & Winder
3—66" P&W 60 & 100 yd. Measuring Machine, belt driven
3—60" Measuregraph Machines
1—70" King & Gerber Tubing Machine with Veeder-Root counter
1—12 Pole Smith Drum Skein Mercerizer
1—240 Spindle J&B 1⅞" gauge Mules
1—392 Spindle Smith 2" Gauge Mule
2—240 Spindle J&B gauge Mules
110—New Leland & Westinghouse ½ and 1 HP 3/60/220 V Heavy Duty Motors Also various size Rebuilt Motors
1—61" Woonsocket 2-cylinder Napper, 20 rolls to each cylinder
1—66" Gessner 16 roll single cylinder Napper
1—72" Gessner 18 roll single cylinder Napper

1—80" Woonsocket 36 roll double acting Napper
4—80" D&F 20 roll Single and double Acting Nappers
1—30 x 30" Mezzera Wool Opener
1—76" Birch Measuring Perch, ceiling type
1—19" Tatham Rag Picker
9—40" Kitson Breaker Pickers, Finisher Pickers, and Single Process Pickers, motorized
1—42" Olsham Fearnaught Picker
2—48" C.D. Sargent Burr Pickers
1—54" Werner Single Color Printing Machine
1—60" R.B.F. 3 color Printer M. Dr.
6—52", 35½, 66, Voelker and Gessner Single and Double Bed Rotary Cloth Presses
3—50 spindle Lindsey-Hyde Adjustable Reels
5—82", 92" & 100" D&F Pin Type Reels, with creel, hack stand, neck reed, warp reel beamer and warp compressor.
1—60", C&M Single Blade Plush Shear
2—60", P&W Single Blade Woolen Shears
11—65½" P&W 2-blade Shears
1—76" C&M Double Blade Shears
2—80½" and 86" P&W Single Blade Shears
1—32" Grand Rapids 2-knife Knit Goods Slitting Machine
1—42" Grand Rapids 20-knife Slitting Machine
1—42" C&M Singer with hood
3—Lowell 2' cylinder Slashers
1—32½" D&F Jack Spool Winder
6—Smith and Furbush Spoolers, 44" drums, 48 ends, 44½" long spools with 10" head, with spool stands
1—60" C&M Single Brush Type Tiger
3—80 Spindle Hopedale band driven twisters 4½" ring, 5½" ga. Belt driven
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1—210 spindle Draper Twister, 2" ring
1—8-string Hemmer Wool Washers
2—#90 Univ. Winders
1—80 Spindle Foster Tube Winder
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COTTON

1—15,000 Spindle Spinning and weaving
1—6,696 spindle spinning and weaving
1—28,000 spindle spinning and weaving
1—5000 spindle spinning
1—3,985 spindle spinning

WOOLEN & WORSTED

1—600 spindle worsted spinning
1—1400 woolen spinning

DYEING & FINISHING

1—Jigg dyeing plant
1—Jigg and box dyeing plant
1—Roller printing plant

CARDING, SPINNING & WEAVING

50—H&B 40" cotton cards
30—Pettee 40" cotton cards
2—Sets of D&F 3 cylinder, 48 x 48 woolen cards

EXCELLENT WOOLEN EQUIPMENT

50—New W-3 C&K woolen looms, new Whitin spinning, Dye Kettles, stainless steel, Carding equipment, and complete finishing equipment.

WEAVING & KNITTING

1—Knit jersey mill, 5 machines
1—Hosiery mill women's or men's hosiery
1—Rayon weaving plant, 20 C&K 4x1 looms

SPINNING

60—F&J 2¾" gauge, 208 spindles
16—F&J 2 3/16" Ring, 3" gauge, 216 spindles long draft.
10—Whitin 2½" ring, 4" gauge, 224 spindles

LOOMS

4—60" Draper Model X
180—40" Hopedale looms
30—Stafford 1x1 looms 45"
36—Draper 60" Modified D looms 69½"
100—Model E Draper looms, 40" width

CARBONIZING UNIT COMPLETE,

with acid baths, drying equipment, scouring range, pickers, dusters, etc.

WINDERS

5—Foster #30, 100 spindles
8—Universal #90 winders, 20 spindles
6—Universal #50 winders, 6 spindles

FINISHING EQUIPMENT

1—W&J tenter frame, 40' long 50" width
1—Set textile dry cans, vertical stack, 40 cans, 105"
1—VV Calender 3 roll, 50"
1—National loop dryer, complete
1—Gessner semi-decator 72" width complete
1—Measuring table 50" width
15—Hope Pantograph engraving machines 45" to 50"
2—VV button breakers 50"
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1—Set color mixing kettles
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Vast assortment of tenter frame clips

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Complete with Combing Plant
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13—C & K 92" 25 harness heavy worsted looms.
6—C & K 4 x 4 72" Gem Head Looms, m.d.
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6—Narrow Fabric Looms, 2" & 5" r.s.
1—27" Carpet & Rug Loom.
8—C & K 92" 4 x 4 heavy worsted looms, 25 harness.
22—72", 42" 4 x 4 Jacquard Looms.

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COMPLETE YARN DYEING PLANT

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1—Klauder-Weldon 56-stick skein Dyer.
2—Van Vlaanderen 60" Stainless Steel Dye Jiggs.
2—Klauder-Weldon Raw Stock Dyers.
1—Sargent 3-Bowl Scourer.
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1—Tolhurst 60" Under slung Extractor, m.d.
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COMPLETE SET 55 COPPER TINNED CANS, 48"

1—2-roll 120" Calendar.
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1—Proctor & Schwartz 84" Revolving Loop Dryer.
1—Proctor & Schwartz 2-truck Skein Dryer.
1—Gessner 72" Full Decater.
1—Butterworth Sanforizer.
1—Johnson 5-Can Rayon Slasher.

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4—Universal Tube Winders.
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3—Rodney Hunt Fulling Mills.
1—P & S 66½" Brusher.
1—C & M Measuring Machine, 90".

AVAILABLE IMMEDIATELY FOR SALE

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ITEM B-F

1 Semi-Decating Machine

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ITEM H-R

1—36 Spindle Foster Winder

Model 101—Equipped with 18 Spindles for 7" Paper Tubes and 18 Spindles for Wood Tubes or Wood Cones—7" Traverse Foster Butterfly Type Slub Catchers

ITEM R-99

Worsted Card—Davis & Furber

60" Card—Equipped with Calender Rolls & Can Coiler—Single Cylinder

ITEM R-41

1—Worsted Card

Six Lickerin Type—60"x60" Single Cylinder

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Model "C"—Serial 425000 Series—40" Width

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All Belt Drive from 5 H.P. Motor—66" wide

ITEM 6781

Gessner Steam Press

Jumbo Type 66" Wide

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Raw Stock Dryer—Sargent

Apron 48" wide x 37 ft. Long—Estimated Capacity about 600# per hour—overall approx. 10 ft. wide x 45 ft. long

ITEM 9755

Dewing Machine

72"

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13" to 16" Dia.
72" to 75" Face
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DRYER, P&S Loop
DRYER, Pin, Kenyon 5 tier
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DYEING MACHINES, Smith Drum Pocket type
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EXTRACTOR, 26" Amer. Motor
EXTRACTORS, Beam 50" & 60" BB
EXTRACTOR, K & G 48", rubber lined basket
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INFRA RED units complete with blowers
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PALMER QUETCH UNIT, Butterworth, 54"
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2—#60 G. F. Universal Cone Winders.
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100—40" Draper E Looms, 5 harness Lacey tops, belt drive.
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1—Barber-Colman, Model "K" Portable Tying-In Machine, equipped with "B" knotter, completely rebuilt.
2—Draper Twisters, Tape Drive, 3¼" Gauge, 2" Ring, 240 spindles each, 1½" front roll, 10" cylinder, belt driven.
4—Whitin Tape Drive Spoolers, 1937 model, 100 spindles each, 6" gauge, model "C" serial Nos. 37088, 370789, 370790, 370791, motor driven, 7½ H. P., 550 volt motors. These spoolers are equipped with 32-83 tensions.
2—12 x 6 Whitin Slubbers, 60 spindles each, 1928 model.
1—H & B Slasher, 7 & 5 foot cylinders, complete with double roll size box.
1—Smith Drum, 3 pocket dryer 42" x 120" Serial No. 24-358-263, 10.5 H.P., 220 Volt, with starter, switches, fittings.
1—Kier 3½ Ton, complete with motor pump, heater and pipes.
60—Deliveries H&B Drawing, 12" Coilers, Metallic Rolls, Mechanical Motion.
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2—GARNETTS, 3 cylinder, 60' wide x 30" dia.
1—GARNETT, P & S Duplex, 4 cylinder unit, 60" wide x 30" dia. Hopper Feed, late type.
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66—DRAPER MODEL E LOOMS, 42" cloth, 2 harness, belt driven.
90—DRAPER MODEL E LOOMS, 44" R.S., 2 harness, motor driven.
90—DRAPER MODEL E LOOMS, 28" R.S., 2 harness, belt driven.
12—DRAPER MODEL E LOOMS, 44" cloth, 4 harness, motor driven.
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90—DRAPER MODEL K LOOMS, 40" cloth, 25 harness, belt driven.
200—DRAPER MODEL K LOOMS, 42" cloth, 25 harness, belt driven.
30—DRAPER MODEL L LOOMS, 90" cloth, 2 harness, belt driven.
36—C & K LOOMS, 55" 4x1 automatic, 25 harness, motor driven.
150—C & K LOOMS, 58" B.S., 4x1 automatic, 25 harness, motor driven.
36—C & K 82" 4x1 automatic, 25 harness, motor driven.
30—C K 92" 4 x 4 BOX LOOMS, 25 harness, heavy worsted heads, belt driven.
7—MULES, 2-240 spindles each 2-1/8" gauge, 2-288 spindles each, 2-1/8" gauge, 1-300 spindles 2" gauge, 2-480 spindles, each approx. 2" gauge.
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1—OPENER, Whitin, Spirawhirl with Buckley Blade Beater.
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16—SPINNING FRAMES, 208 spindles each, 1-13/16" ring, 2-¾" gauge, band driven spindles, belt driven.
3—SPINNING FRAMES, 240 spindles each, 1-⅝" ring, 3-⅛" gauge, band driven spindles, belt driven.
36—SPINNING FRAMES, 224 spindles each, 1-¾" ring, 2-¾" gauge, band driven spindles, belt driven.
30—SPINNING FRAMES, 208 spindles each, 1-13/16" ring, 2-¾" gauge, band driven spindles, belt driven.
84—SPINNING FRAMES, 192-204 spindles units, 2¼" ring, 3" gauge, band driven spindles, motor driven.
9—TWISTERS, Dry, 224 spindles each, 1½" ring, 2-¾" gauge, band driven spindles, motor driven.
9—TWISTERS, Dry, 224 spindles each, 1¼" ring, 2-¾" gauge, tape driven spindles, belt driven.
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2—TWISTERS, Fancy, 192 spindles each, 2" ring, 3" gauge, band driven spindles, arranged for motor drive.
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1—CALENDAR, Cotton, 50" face, 3 roll unit.
1—CALENDAR, Silk, Hydraulic 60" face, 4 roll unit, pump, motor driven.
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1—CAN DRYER, 12 tinned steel cans, 44" x 23" dia.
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2—DRYERS, PIN, 72" width, motor driven fans.
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1—NAPPER, 86, D.A., 36 roll, clothed complete.
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10 Lowell Spinning Frames—Six—204 spindles each, Two—192 spindles each, Two—216 spindles each, 3" gauge, 2-1/4" ring, 7" traverse, Band drive, 10" cylinder 7/8" whorl.

3 Hopedale Twister—Two—100 spindles, One — 110 spindles 3" ring, 5-1/2" traverse, 8" cylinder 1-5/8" whorl, band drive.

1 Draper Spooler—64 spindles, 5-3/4" gauge, 6-1/2" traverse, band drive.

1 Hopedale Spooler—64 spindles, 5-3/4" gauge, 6-1/2" traverse, band drive.

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4 Universal Tube Winders, 6 spindles each, 6" traverse, Tubes 5/8" hole.

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1 Tank, not jacketed, 53" wide by 48" high

1 Jacketed Tank, 63" wide by 50" high

1 Pebble Mill, 40" wide by 48" high

1 Pebble Mill, 48" wide by 48" high

2 Mixing Tanks, 48" wide by 60" high (not jacketed)

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1 20 harness Box Dobby 4 x 1 Box (automatic) 36" width of cloth, Equipped with filling battery and Leno heddles

1 Reeves Variable Speed Transmission No. 1, Belt Width 5"

1 Proctor & Schwartz, 3 unit, 8 foot automatic loop dryer

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5—3½", 60 N. x 60 N., Wildman Ribbers with 2 color stripers
15—4", 66 N. x 66 N., Wildman Ribbers with 2 color stripers
16—14 pt. Wright Steady Loopers, chain clippers

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1—#000 Reeves Drive, Class C
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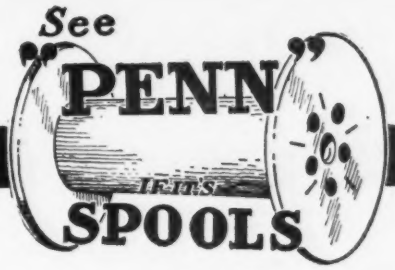

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Complete Worsted Dressing Unit, Pin Reel 94"—Track, Beamer, Hack Stand, Neck Reed & Jack Spool Rack—Motor Driven.

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20,000—8¾" Spinning Bobbins, 1" Dia.—Cone Base, Base 1¾".
2,500—Worsted Bobbins—7" x 4".
700—8" x 4" Worsted Bobbins, Cone.
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2037—Spindles, 20½" o.a. 17" Blade—7/16" Dia.
4235—Tubes—5½"—1" Whorl—7/16".
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1—Sargent 6' Cone Duster, wood box with iron frame and fan, belt driven
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2—Davis & Furber single cylinder Worsted Cards, iron cylinders, 60" face, 54" dia., equipped with can coilers, 18" dia., belt driven
2—M. A. Furbush single cylinder Worsted Cards, 54" x 54", equipped with iron cylinders, wooden doffers, can coilers, 18" dia., belt driven
2—Roy 60" Card Grinders
1—M. A. Furbush 60" Card Clothing Machine

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3—Taylor-Wadsworth Double Can Gill Boxes, 7/16" pitch and 3/8" pitch, 24 fallers
12—Prince-Smith Single Can Gill Boxes, 7/16" pitch and 3/8" pitch, 24 fallers
6—Prince-Smith Balling Machines or Punch Boxes, make ball 9" x 10" dia., belt driven
1—Whitehead & Laylund Double Can Intersecting Gill Box, 7/16" pitch, 18 fallers
3—Prince-Smith and Whitehead & Laylund Single Balling Gill Boxes, 1/2" pitch, 24 fallers
2—Taylor-Wadsworth Double Balling Gill Boxes, 7/16" pitch, 22 fallers

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24—Prince-Smith and Taylor-Wadsworth 3-circle Noble Combs, equipped with coilers, belt driven

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17—Prince-Smith, Hall & Stells and Taylor-Wadsworth Double Baling Gill Boxes, 3/8" pitch, 7/16" pitch, 1/2" pitch, 18 and 24 fallers
17—Prince-Smith and Taylor-Wadsworth Single Balling Gill Boxes, 3/8" pitch, 1/2" pitch and 7/16" pitch, 18 and 24 fallers
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16—Prince-Smith Cap Spinning Frames, 2—3 1/2" pitch, 14—3 1/4" pitch, 7—200 spindles, 9—208 spindles, tape drive, individually motor driven
4—Hall & Steels Flyer Spinning Frames, self doffing, 5 1/2" pitch, 120 spindles, belt driven

TWISTING

12—Collins, Fales & Jenks and Prince Smith Twisting Frames, 1—2 5/8" ring, 3 1/2" pitch, 1—2 1/4" ring, 3 1/2" pitch, 1—2 1/2" ring, 4" pitch, 1x3-9/16" ring, 4 1/4" pitch, 4—2 3/4" ring, 3 3/4" pitch, 4—3 1/8" ring, 4" pitch, 2—200 spindles, 2—160 spindles, 8—208 spindles, tape drive, individually motor driven
28—Prince-Smith Trap Twisting Frames, 13—2 3/8" ring, 3 1/2" pitch, 15—3 3/4" ring, 4 1/2" pitch, 13—192 spindles,10—156 spindles, 5—160 spindles, tape drive, individually motor driven
2—Prince-Smith Universal Twisting Frames, 4" ring, 5 1/2" pitch, 132 spindles, self-oiling ring, individually motor driven
2—Prince-Smith Flyer Twisting Frames, 5" pitch, 106 spindles, band drive, individually motor driven

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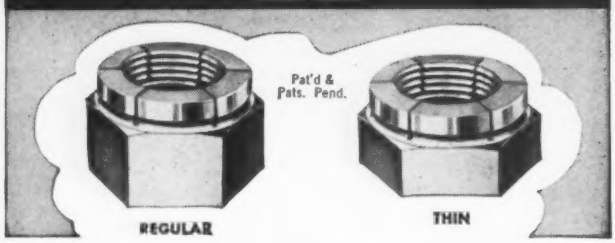

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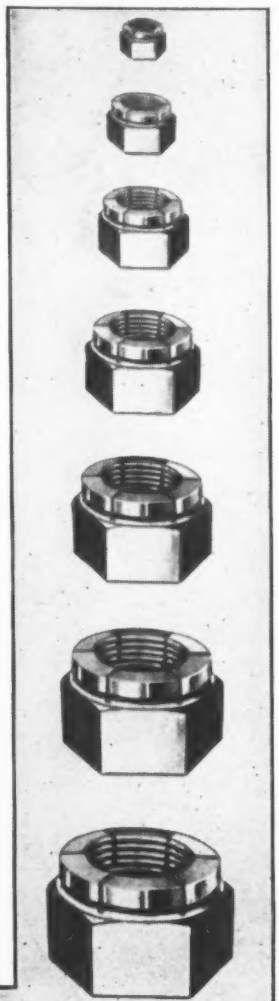

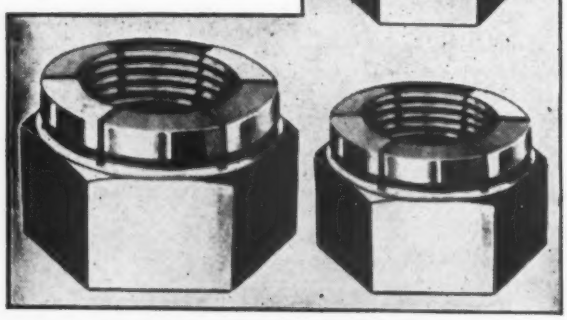

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The BOYCE WEAVERS' KNOTTER completely eliminates soiled yarn due to dirty or perspiring hands. Hand-tied knots are certain to absorb considerable stain which will often bleed off into other yarn during further processing. A weavers' knot precision tied and clipped—and untouched by human hands—makes a significant contribution to higher yarn quality.

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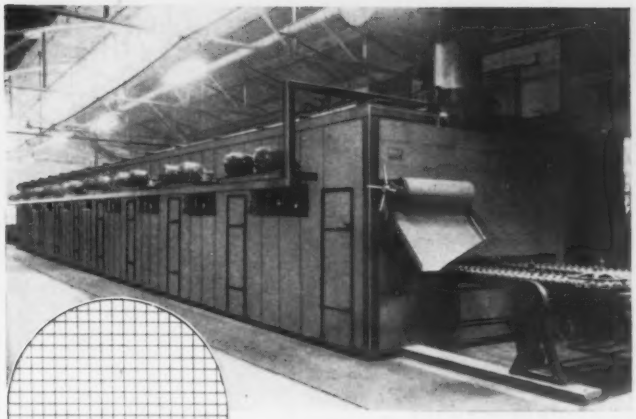

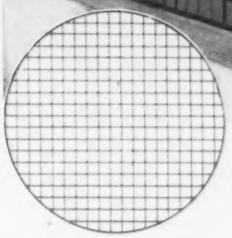

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With Continuous Fine Mesh Filter Screen

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Mount Hope CONTINUOUS ROLL FEED

Eliminates Costly Stops in Dyeing, Printing, Finishing

Photo shows Portable Model Style 1

SLACK in the scray box of the Mount Hope Continuous Roll Feed permits full speed operation of your dyeing, printing or finishing machines while supply rolls are being changed. And one person can quickly, easily sew on a new roll. Here is a valuable saving in time and labor, two precious commodities in any mill. A third saving effected is the virtual elimination of cloth damage due to machine stoppage when supply feed is interrupted.

The Mount Hope Continuous Roll Feed consists of a cradle, with ball bearing rolls, in which the new roll is held in place by adjustable selvage locators, motor driven ball bearing nip rolls and a scray. A center bar let-off with brake may be substituted for the cradle, if desired.

The use of the Roll Feed varies with the manner of using the scray as in the three Styles listed below:

1. Scray normally empty (except when sewing on new roll) with cloth being pulled from roll over two ball bearing idler rolls. Just before new roll must be sewed on, operator starts simple constant speed motor putting nip rolls in contact thus filling scray.

2. Scray normally full to level controlled by electric eye. Simple constant speed motor starts and stops automatically to maintain this level.

3. Scray normally full. Level maintained by synchronizing nip roll speed with speed of machine being fed, by variable speed drive from direct current motor, or from mechanical speed changer and constant speed motor.

The Open Width Tension Device, illustrated below, should be used with the Mount Hope Continuous Roll Feed when the cloth is guided to a succeeding machine.

Use the Mount Hope Continuous Roll Feed for continuous production. It can be used with all roll fed machines in the finishing plant. Send for our descriptive bulletin.

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42 Adams St., Taunton, Mass.

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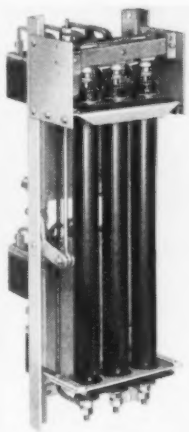

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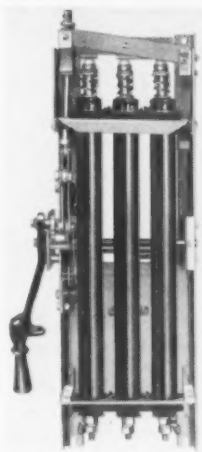

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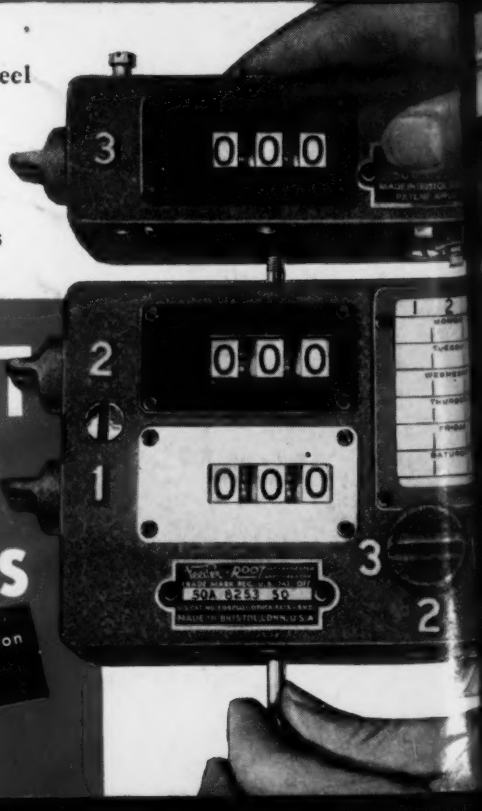
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